

Watch atoms  
Right up close to my face  
Seeing how they change

As I watch the sand  
Get hotter and hotter  
And start to melt away

-Poem by 7<sup>th</sup> grader in program

The Illinois MRSEC implemented its middle school outreach program “Musical Magnetism” for the third year starting in Feb. 2021, in a six-week, virtual format. The program engages middle school students in materials science demos as they practice creative expression with a science theme. The program reached 50 7<sup>th</sup> and 8<sup>th</sup> graders at Franklin STEAM Academy, a school with majority URM students.

Kits distributed to students provided content for hands-on materials science activities. MRSEC Faculty, postdocs, and students led lessons and assisted throughout the program. One of the highlight activities, letting students deconstruct a toy to learn for themselves how it works, was still included. A virtual visit to Materials Research Lab and instrument demo inspired students to write haikus. The virtual format allowed participation of scientist/artist visitors from Chicago and Boston, including a professional tap dancer/materials scientist and a chemist/glass artist. The students produced creative pieces with science themes, including drawings, comics, spoken word story, and poetry.

# Virtual Musical Magnetism Engages Middle School Students in Materials Science

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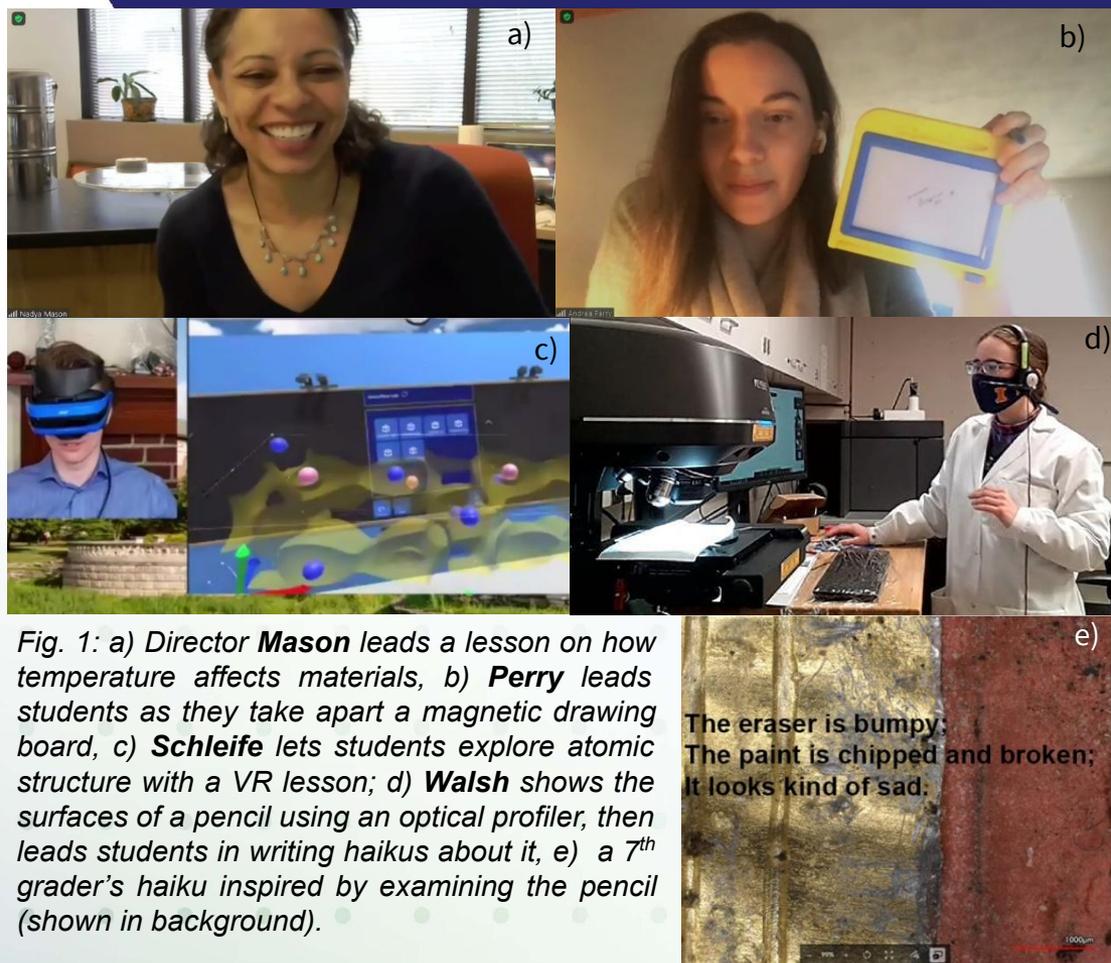


Fig. 1: a) Director **Mason** leads a lesson on how temperature affects materials, b) **Perry** leads students as they take apart a magnetic drawing board, c) **Schleife** lets students explore atomic structure with a VR lesson; d) **Walsh** shows the surfaces of a pencil using an optical profiler, then leads students in writing haikus about it, e) a 7<sup>th</sup> grader's haiku inspired by examining the pencil (shown in background).

Read more: “Musical Magnetism: Encouraging Franklin Middle Schoolers to Express Science Via the Arts” (3/25/21), <https://www.istem.illinois.edu/news/imrsec.musical.magnetism21.html>

“On Her First Foray into STEAM, Kathy Walsh Acquaints Franklin Students with Microscopy, Haiku” (2/17/21) <https://www.istem.illinois.edu/news/imrsec.musical.magnetism21.Walsh.html>