



National STEM Scholar Program

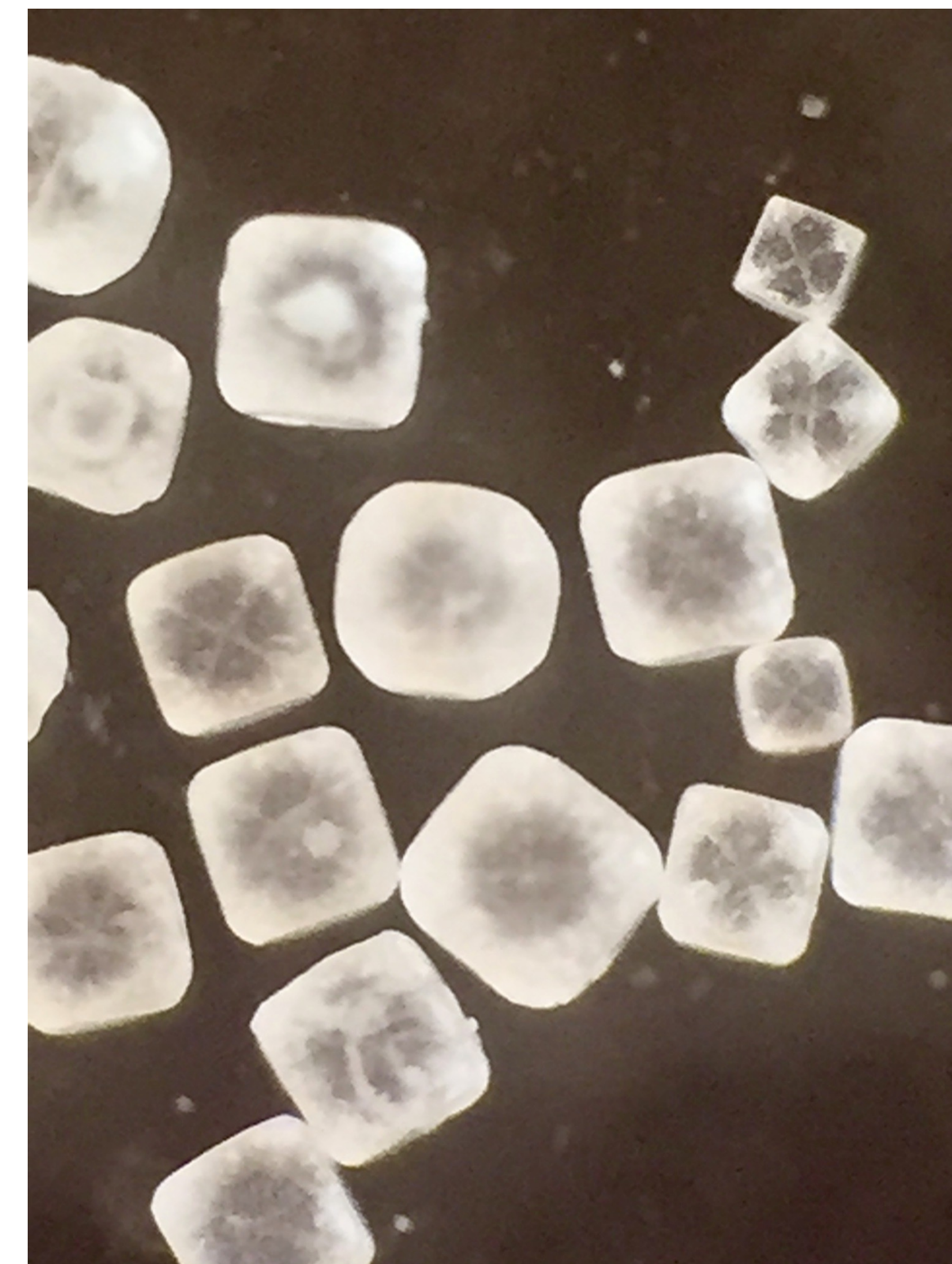
Smartphone-Tablet Microscopes



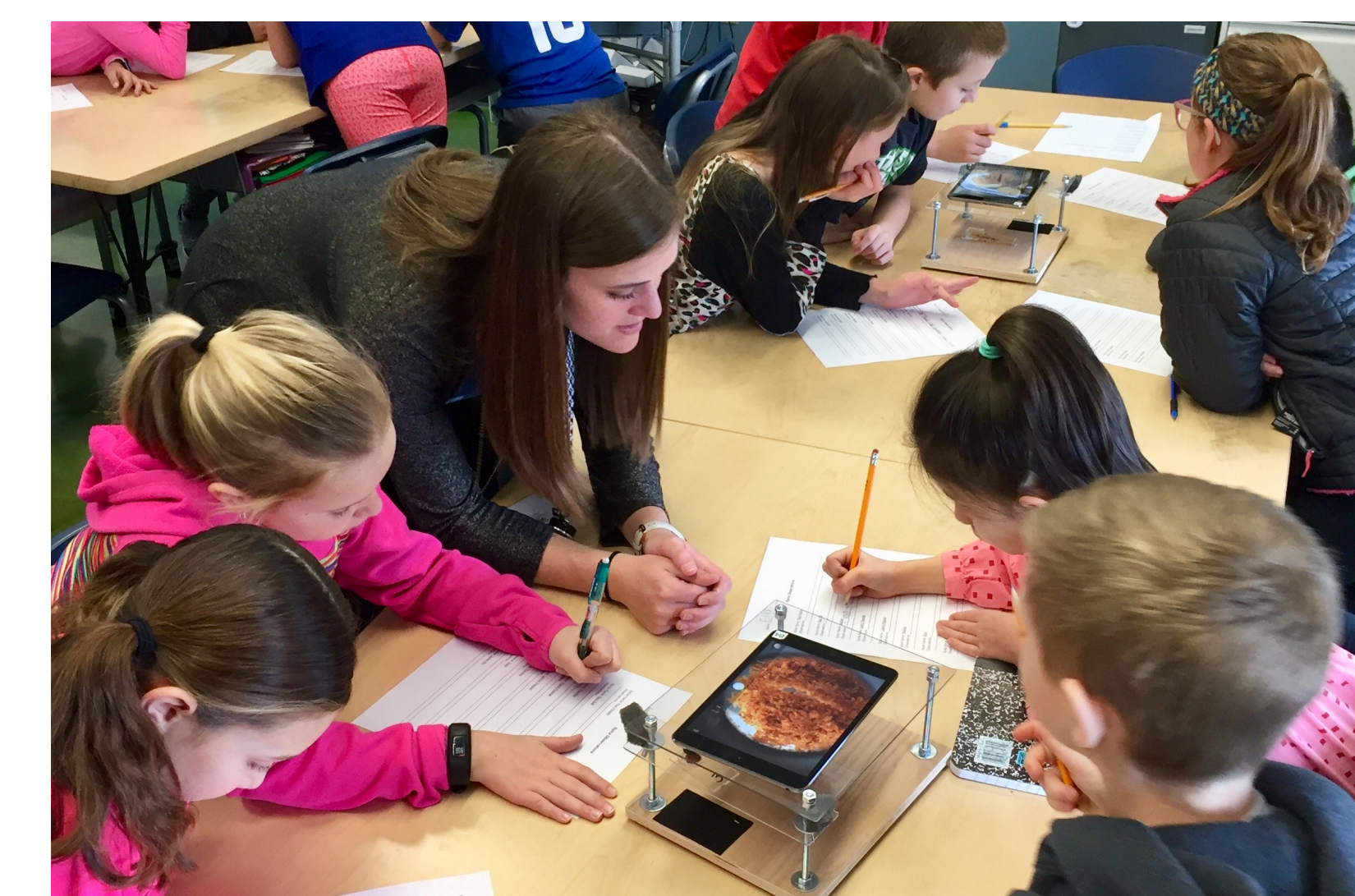
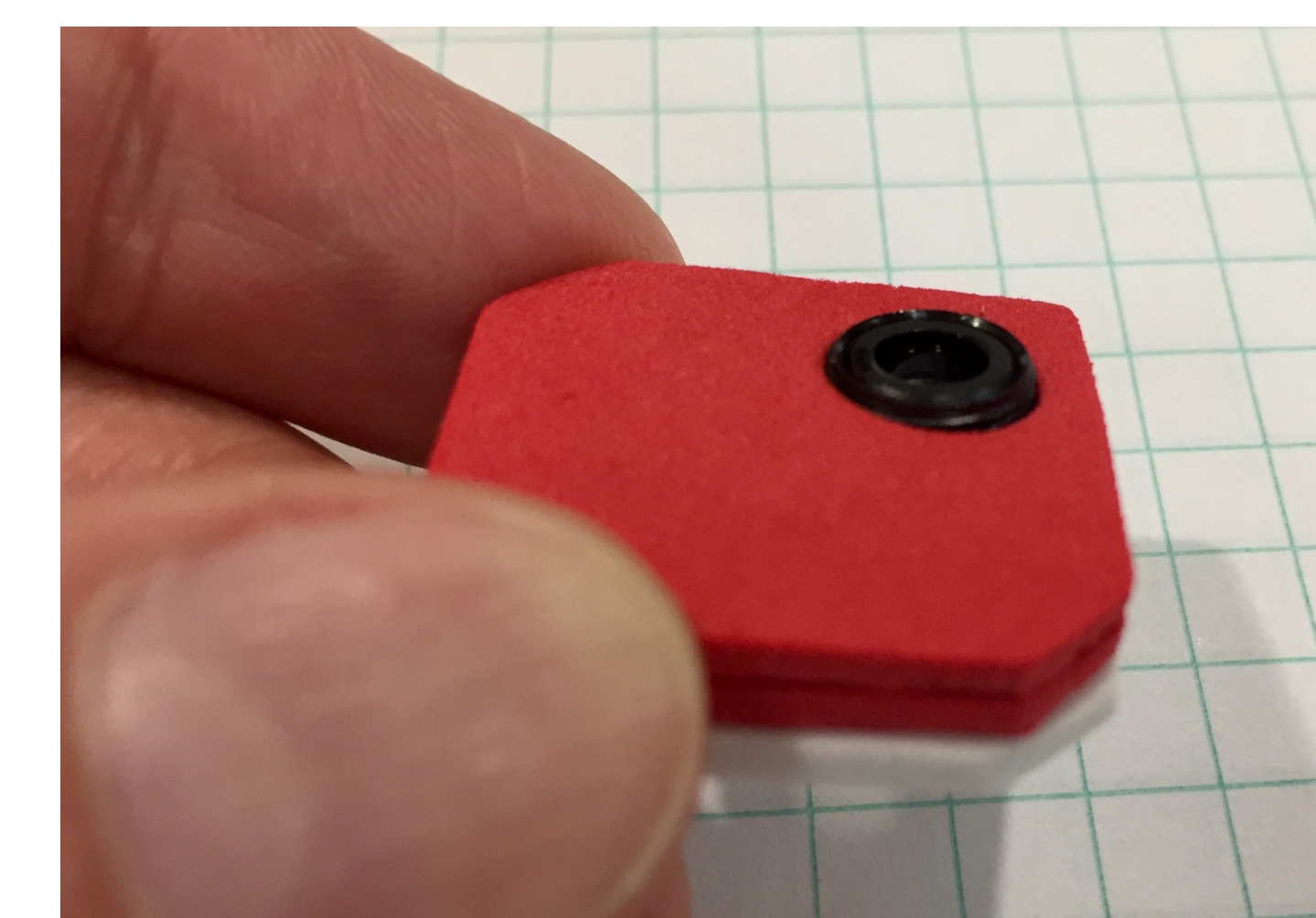
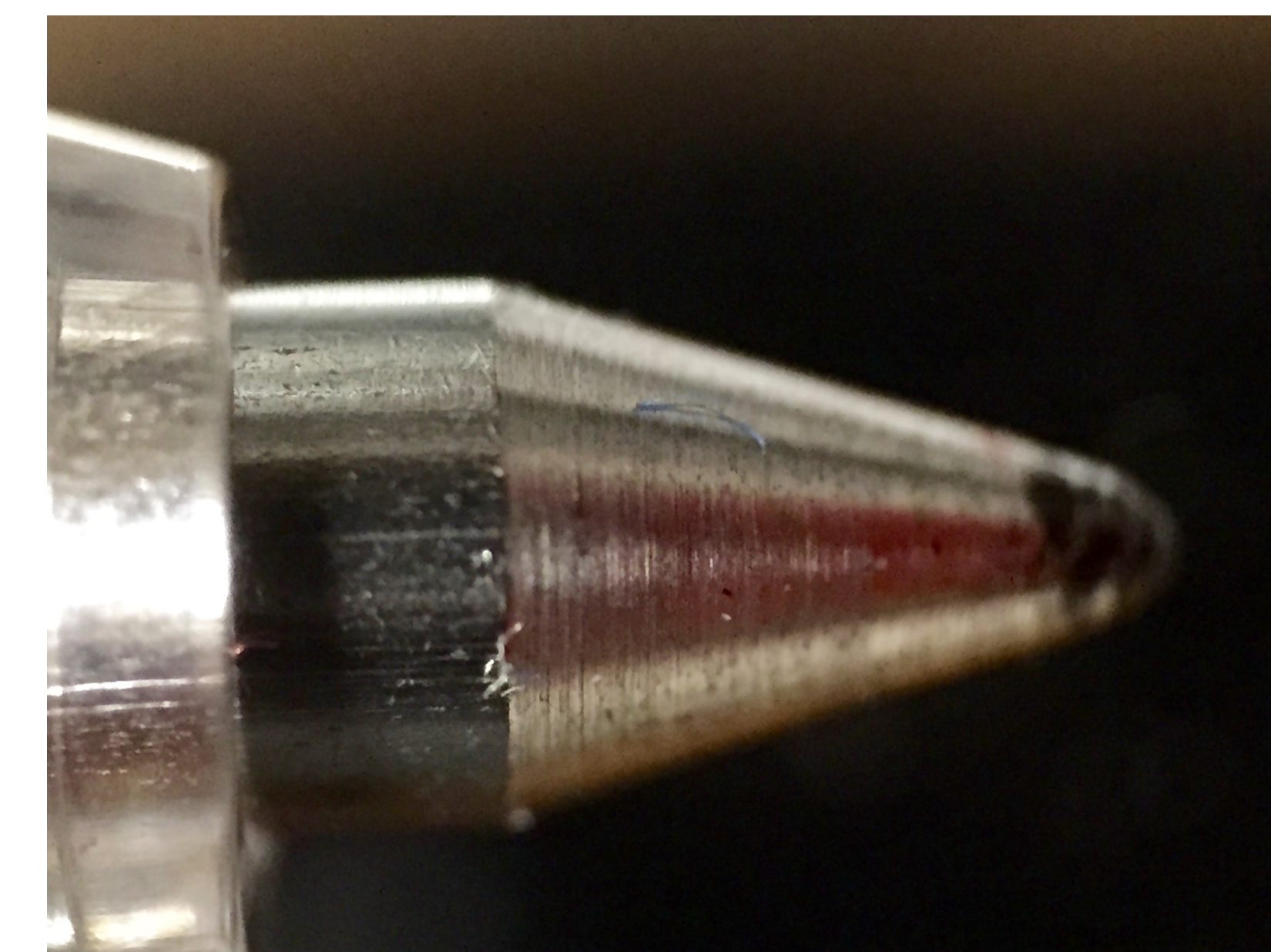
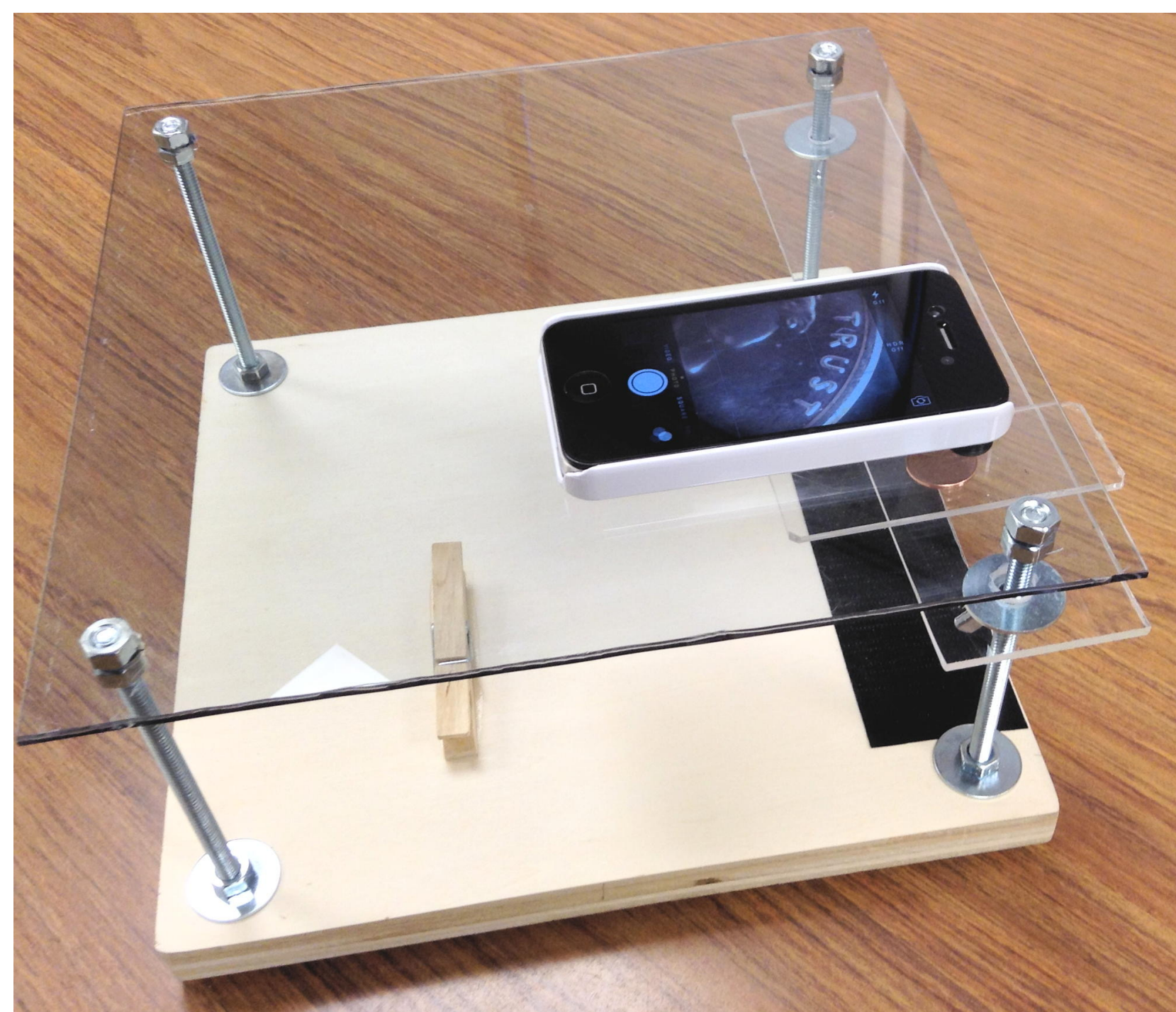
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Introduction: Simple tools and locally available materials can convert smartphones and tablets into powerful microscopes. The cost, utility and characteristics of these microscopes make them ideal instructional tools. A per microscope cost as low as \$1 makes it possible to give these microscopes to students.

Tabletop Microscope: The same lens that can make a personal microscope or even a water drop can be used on a piece of acrylic plastic to make a tabletop classroom microscope.



Personal Microscope: A laser pointer lenses (scavenged from a cheap laser pointer or bought inexpensively from a supplier) can be mounted on a piece of foam rubber or acrylic plastic and attached to a smartphone or tablet to make a portable microscope for a cost that approaches \$1.



The design of these microscopes was inspired by the wonderful work of Kenji Yoshino.

https://www.youtube.com/watch?v=KpMTkr_aiYU