



Chad Attlesey at the Area 10 Labs office in Rochester with a MindTech microscope.  
Photo By Rochester Post bulletin

What if schools has access to inexpensive, rugged microscopes that every student could take home to experiment with in the woods, by a pond or in their backyard?

Generating excitement and curiosity in K-12 students is the goal of Integrated Science Education Outreach or InSciEd Out, a Rochester group that has created its own science curriculum. InSciEd Out began in 2009 as a collaboration of Mayo Clinic, Winona State University-Rochester, and Rochester Public Schools. In recent years, InSciEd Out organizers realized they had a problem. The cost of microscopes for the new hubs was prohibitive. That's when InSciEd Out reached out to Chad Attlesey at Area 10 Labs.

Area 10 Labs designed a portable microscope that disassembles into eight pieces that can be stored in a case that also serves as its base. The microscope can be easily assembled in about a minute.

The wi-fi enabled microscope can link up with tablets or laptops to show and capture the images seen under the lens. It comes with a re-chargeable battery that doesn't need to be directly plugged into an outlet. The light source is a small LED bulb powered by AA batteries.

Area 10 recently started a new company, MindTech, to drive project development. Progressive Tool & Manufacturing of Pine Island was contracted to make the tooling and run the plastic parts for the microscope.

"It is a nice looking product. It was already was a good design," said John Lodermeier of PTM. "As of now we have made them in two different colors and did some pad printing (of logos) on them,"

The first microscopes are now "in the wilds" of middle school classrooms in Chicago and India.

"The kids really like it," Michael Ekker of InSciEd Out said. "We had microscope shortages and often had only one microscope in a classroom. Now we have four to eight in each classroom."

Being able to dismantle them into a portable carrying case means teachers can stack five or more in the space it takes to store one standard microscope.

"By having a less expensive microscope to do this, people are less afraid and so there is so much more accessibility integrated with our wonderful teacher-written science modules," said Dr. Steve Ekker of Mayo Clinic and InSciEd Out. "There's a lot of interest in this. There's really a high-quality microscope condensed into that lunchbox."

"The goal long-term is to bring the price down to \$100 per microscope. We would love to get them in the hands of every student," Attlesey said.

Area 10 and MindTech would also like to commercialize the microscope to reach broader markets, through direct retail sales.