

Hands-on Science for the Visually Impaired



A teacher and student observe the changes that occur when borax is added to glue, causing cross-linking of the polymers.

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With over 50,000 members, the National Federation of the Blind (NFB) is the largest organization of blind people in the U.S. In collaboration with Cary Supalo, a blind graduate student at Penn State, MRSEC outreach coordinator April Hill presented workshops at the St. Lucy's Day School for the Blind in Philadelphia and the annual Pennsylvania chapter meeting of the NFB. Participants used touch, smell and hearing to observe chemical reactions as they titrated vinegar with baking soda. During a workshop focused on polymers, participants acted as the monomers in a kinesthetic illustration of polymer cross-linking, before preparing slime and silly putty by cross-linking glue polymers with borax.

One young participant asked for extra supplies so she could teach her sighted classmates at school. The Penn State MRSEC is building on its successful partnership with NFB to develop of a one-week water quality and remediation research project to be offered to high school students attending the NFB's Youth Slam.



Students prepare Fizzy Wizard Bath Bombs. When added to water, the bombs undergo an acid/base reaction, producing bubbles that are easily observed non-visually.



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