

Puzzle #80: Sticky business!

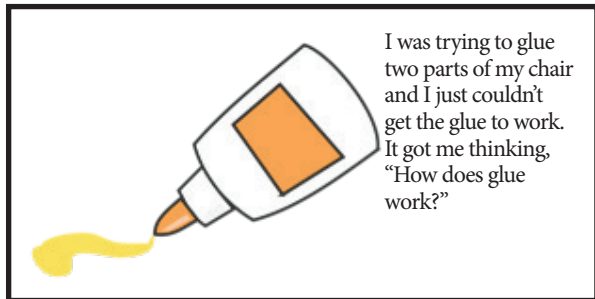
MoeZone

Real challenges for people living in the real world



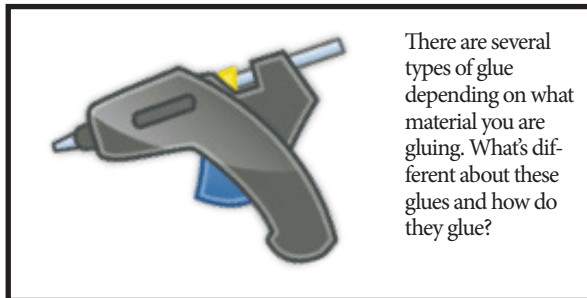
Be safe!

Can you get hurt?
Can someone else get hurt?



I was trying to glue two parts of my chair and I just couldn't get the glue to work. It got me thinking, "How does glue work?"

ELEMENTARY



There are several types of glue depending on what material you are gluing. What's different about these glues and how do they glue?

ADVANCED



Sometimes we want glue to be permanent, sometimes we want it to only last a little while; sometimes we want it to be strong and sometimes weak. What are some examples?

PROFESSIONAL

Send any solutions by Oct. 15, to Moe Benda at mbenda@d.umn.edu.
Best solutions and next puzzle will appear in HTF on Oct. 20.

Moe's quote:
Minus Infinity is tough to comprehend.

MoeZone Puzzle #79 solutions: Immaterial ?

ELEMENTARY PUZZLE

Find something made of silk and compare it to other types of materials, like jeans, or a smooth shirt. How are they the same? How are they different?

Chiara B (17): Silk is very smooth, jeans are rough. Water soaks into jeans, but runs off of silk mostly. I had a really smooth shirt made out of rayon and that was like silk, but it wasn't as cool against my skin.

ADVANCED PUZZLE

Someone told me that there were animal fabrics and vegetable fabrics. Is this right? Where do these fabrics come from?

Paul M (Biwabik): Animal fabrics are made from like the wool from sheep and vegetable fabrics are from plants like cotton. There are also synthetic fabrics like rayon or polyester that come from a petroleum base.

PROFESSIONAL PUZZLE

I've heard that silk comes from a silk worm. How does it go from a silk worm to a nice silk material?

Paul M (Biwabik): I've heard that it takes the threads of 2,500 silkworms to make one pound of silk. I'm not an entomologist, but I found online that silk is made exclusively by one moth that feeds on mulberry trees and came originally from china. When the silkworm is inside its chamber of silk fiber, each one makes over 1,000 feet of silk. If the silk worm breaks out of the chamber, it will destroy the fiber, so they use "sericulturists" to destroy it while inside—3,000 per one yard of silk. Each cocoon is a continuous thread of silk that the worm wrapped around itself. That thread is unwound and attached to the next to make a long, continuous thread. From there, the process is much like any other thread to fabric story!

MOE'S NOTE: Paul, thanks for this. I found some other great info here on what you've said and the rest of the process: <http://www.madehow.com/Volume-2/Silk.html>.