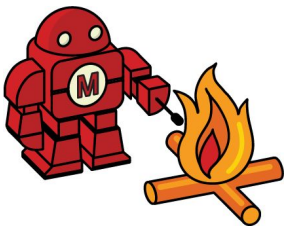


Making News: eTextiles & Wearables Edition

Maker Camp

Making in the News

Your laptop or phone can collect data about what you search for or where you are, but clothes of the future could collect data about you too. Researchers at MIT are teaming up with the Army to develop fabric that can detect information about the soldier wearing it. The hi-tech fibers can be woven in with standard clothing fibers to keep track of body temperature, stress level. They'd even like to be able to use the sensitive fabric to notice sound vibrations from nearby or exposure to toxins to help protect soldiers from danger. Pets and livestock are even getting wearable devices. A cow mask is being tested in Europe that can detect early signs of disease. The mask will also turn cow burps that contain methane into less harmful carbon dioxide. Other engineers have developed a sensor for pets that can track vital signs, even through fur. It uses a layer of liquid to detect acoustic waves, like a stethoscope, and record the breathing or heart rate in the furry friend. That data could even help sniffer dogs be more reliable.

Questions:

...How could the army's clothes that detect information be changed to help kids?

...What other ways could wearable technology help animals?

...What problems need to be considered when using wearable technology with animals?

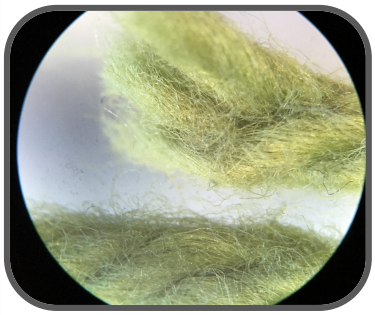
Learn more about Wearables: Here, here, & here

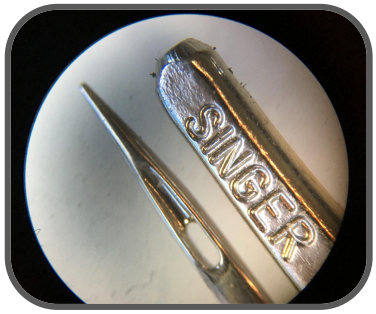
Cool Career: Shoe Design

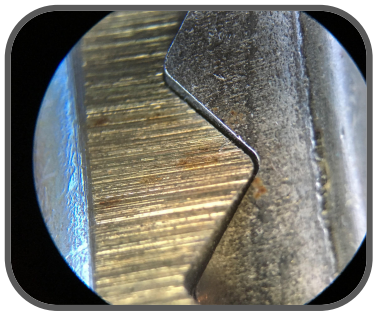
Do you like shoes? Did you ever wonder how they come up with all those different designs and colors and patterns? Shoe designers use their art skills with a knowledge of different materials to create the new shoes we buy at the store. Shoe ideas are drawn on paper and computer software. Those drawings are turned into patterns, prototypes, and eventually put into production. Each step of the shoe design process requires a lot of math and science, combined with artistic skills. To learn more about what it takes to be a shoe designer, check out the resources here & here

Mystery Photos

Can you identify the mystery textiles & wearables items under the microscope?





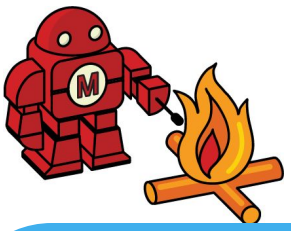


Decode the answers using Morse Code:

-.-- .- .-. -. … . .--

.. -. --. -- .- -.-. …. .. -. . -. . . -.. .-.. .

.--. .. -. -.- .. -. --. … …. . .- .-. …



Making News: eTextiles & Wearables Edition

Maker Camp

How Things Get Made

Have you ever wondered how they make spacesuits for astronauts? Special fabrics are needed to help keep them safe in space. Every suit is custom made for each crew member so that it fits them well. When the crew sit in their seats, they plug in the suit to the umbilical that provides communication, electronics, and air they need. What else would be important for a spacesuit to have? Watch the process

Maker Camp Events

Ask your Maker Camp leader to attend live events!

CodeJoy Live Virtual Sessions: Robot Memories
July 26-30, 4 pm ET / 1 pm PT
During this live coding session, Elby is visiting his grandma Dottie during a terrible storm. When there is a power outage, her memory files become corrupted. We need to find them and bring them back to life with color and movement. Participants will learn the basics of coding tri-LEDs and motors using Makecode. CodeJoy participants will learn the basics of coding tri-LEDs and motors using Makecode.

Coming Soon! Mario the Maker Magician Live Zoom Party on July 29, 10 am PT / 1 pm ET. Space is limited!

Maker Challenge

Have you tried all of the challenges for this Adventure? If not, ask your Maker Camp leader for info about these fun projects: Trashion Fashion
The Simplest Circuit
MakeFashion Edu Design Process

Q & A with a Maker

Twila Busby: Maker, Educator, Make Fashion Edu

1) When did you start making?

I think because I grew up in a small farming town, making was just a part of life. Sewing, crocheting, quilting, as well as building, fixing, gardening, canning, and baking were what everyone did. Not much in the way of computing and electronics though! Now I regret that, even though my father had a Radio Shack dealership, I didn't learn anything about all those components hanging on the racks that I helped to stock.

2) What is your favorite part of making?

I like the puzzling part of it, trying to make it all work together, whatever it is. And then I like the feeling of seeing something that I made later on and thinking, "I did that!" I really enjoy working with someone else on a project. I also like that whenever someone is making something, there is a story in the process and outcome. I love those stories!

3) What was your biggest "fail" when making something?

I can't really think of an epic fail. Mostly a lot of little "failures" along the way, which I don't even think of as fails anymore, just another piece of the puzzle to find out why something didn't look or act like I expected.

4) What do you want to learn about next?

I really, really need to learn to use design software better, right now I do a lot of copy, paste or downloading someone else's generous shares, but it is time I learn to start from scratch with my own ideas.