

Maker Camp



Making in the News

Remember the last time you touched a dark colored surface on a sunny summer day? It probably felt very warm on your hand. Now multiply that warmth by 4 million miles of road in the United States. Dark colored paved roads absorb sunlight and release it gradually to the surrounding buildings, making the buildings warmer. But lighter surfaces reflect that solar radiation back to the atmosphere and stay cooler. Researchers are studying how to best use lighter colored paints and additives to help roads and neighborhoods stay cooler. This allows people to use less energy cooling their homes and buildings. Some cities don't need reflective coatings because they have many tall buildings or trees, which keep city streets shady and prevent sunlight from heating up buildings. But other cities that are more spread out, or have freeways and highways that don't get a lot of shade. Those are perfect for painting with reflective coatings or adding lighter colored stone to road surfaces. This reduces the albedo, or amount of light a surface reflects. The researchers also studied places where people take walks. Using reflective coatings reduced the temperature of the sidewalk, but it caused the air just above the sidewalk to feel much hotter. Research is continuing, and rethinking the colors of roads, sidewalks, and cars can help us reduce our energy use and live more comfortable lives.



Questions:

- ...What else could you paint lighter colors to keep cooler?
- ...Can you think of some things that would be good to paint darker colors to keep warmer?
- ...Could you design an experiment to test temperatures based on the darkness of color?

Learn more about it: [Here](#) & [here](#)

Cool Career: Food Scientist

Did you ever wonder how food makes it safely from a farm to your plate? Food science includes the study of animals, plants, soils, and the environment to help produce more and better foods for us to eat. Many food scientists

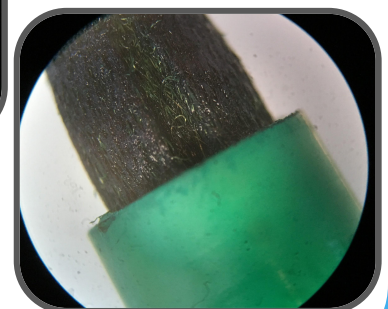
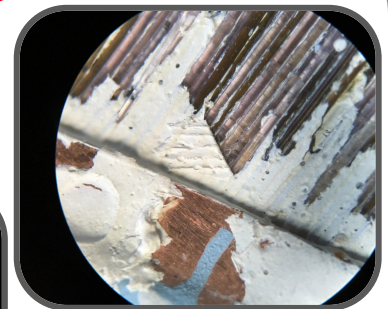
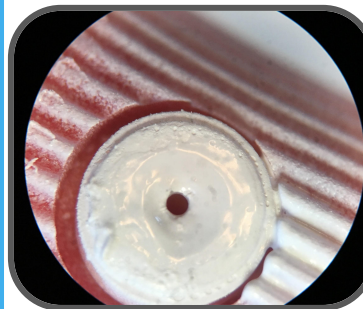
work with companies that process, package, and deliver food to stores and restaurants.



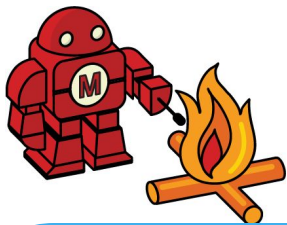
A career in food science can even involve figuring out ways to make foods look and smell more appealing to customers. NASA employs food scientists that ensure astronauts have delicious and nutritious things to eat in space. Food production uses STEAM at every step of bringing breakfast or dinner to you. If this sounds interesting, learn more about the people making food better as a [Food Scientist](#)

Mystery Photos

Can you identify the mystery STEAM items under the microscope?



Decode the answers
using $Z=A$ & $Y=B...$
KZRMGYIFHSHKIZBK
ZRMGMLAAOVNZIPVI



Maker Camp



How Things Get Made

Have you ever wondered how a bike is made? The frame, seat, tires, chain, and more each require different design and materials to build.

One person decided to make a very special bike. Using a lot of engineering and math, he built it entirely out of wood, with just a little glue to hold it together and some aluminum for the chain. How did he do it? Did it actually work when he rode it?



Watch [the process](#)

Maker Camp Events

Ask your Maker Camp leader to attend live events!

CodeJoy Live Virtual Sessions: Robot Rovers

Aug. 2-6, 4 pm ET/1 pm PT; Aug. 2-3, 2 pm ET/11 am PT
During this [live coding session](#), Elby is on a mission to find the earring that Kelsey has lost in the space behind her wall. To complete this mission, Elby must first learn how to drive a rover, or robotic vehicle. He's never driven before, so he can use a little help from our live coders to get those rotation servos spinning. CodeJoy participants will learn the basics of coding rotation motors and learn how to code multiple outputs at once.

LIVE on Zoom! Mario the Maker Magician [Punk Rock Magic Show](#), Thursday, July 29, 10am PT/1pm ET.

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: [Cooking Fossils](#)
[Water and Plants in action](#)
[Recycled Microscope](#)



Q & A with a Maker

Camila & Diego: Students, Makers, & YouTubers from [Moon Makers](#)

1) *When did you start making?*

From a very young age, we began to create, due to our curiosity, we began by disassembling appliances that were at home and then creating robots and circuits.



2) *What is your favorite part of making?*

We love the trial and error process as it allows us collaboration, learning and new ways to develop our skills.

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

Mistakes are part of the learning process, it is normal to commit them during the development of a project, it is where we persevere.

4) *What do you want to learn about next?*

MoonMakers wants to continue learning and developing creative and digital skills, to continue sharing knowledge with more people.

