



Maker Camp

Make: Google

July 7–August 15

Affiliate Site Playbook

Welcome to Maker Camp!

On behalf of **Make:** and our partners at Google, we have written this packet for you, our Maker Camp Affiliate, to help you maximize your Maker Camp experience.

This playbook will also give you a sense of the maker movement as a whole and give you some general characteristics of the makers you'll meet through Maker Camp. It will help you and your campers imagine your summer and understand what to expect.

We'd like to hear how you have adapted these materials for your camp program. Let us know the age of your campers and how these materials worked or didn't work for your program, so that we can improve these materials for next year's Maker Camp.

Who is a Maker?

We believe that everyone is a maker. Because you are running a Maker Camp, we're guessing you agree. A maker makes things; it's that simple. Robots, rockets, 3D prints, animation, furniture, fashion—the list is as endless as our imaginations. Maybe you like to build vehicles in the shapes of cupcakes, or whole worlds out of wooden toothpicks. Being a maker isn't some distant goal your campers will only achieve after years of work. They can start making right now.

Here are some of the things we've noticed about makers. We include them for your own understanding, but you might find it helpful and interesting to discuss some or all of these concepts with campers.



Maker Camp = Meeting Makers + Making + Sharing

30 days of hangouts, projects, and community designed for non-stop making action!

Meeting Makers

Inspiring hangouts on air at 11am*

Every weekday of Maker Camp

Dynamic camp directors and counselors host live Hangouts On Air (HOAs) based on the week's theme. Monday through Thursday, we feature special guest makers who create amazing things, along with the daily project.

We end every week with an epic **Field Trip Friday**, and then we share the weekend project.

Watch & interact LIVE

Watch and ask questions. Live viewers can interact with the makers using the Q&A box in the Hangout.

Join us LIVE on camera

We invite campers to join us live on the hangout. Ask makers questions face-to-face! Show off your latest creations! Contact superaffiliate@makermedia.com for details.

Watch the archived video

Can't watch the live show? No problem! We archive hangouts after they air. Encourage campers to watch anytime.

* Maker Camp Hangouts happen weekdays at 11am Pacific time. Check the website calendar for exceptions.

Making

Make a daily project—or anything!

Make a Maker Camp project

Every day of Maker Camp includes a project. Monday through Thursday daily projects are paired with — and explained in — the hangouts, and we share a more complex weekend project at the end of **Field Trip Friday**.

Materials and instructions are posted in advance at makercamp.com. Read on for more details later in this Playbook.

Make ANY project, anytime

Our primary goal is for more kids to make, to hear what you're making, whether or not it's the daily project. You are welcome to tailor your making program to your campers, resources, and goals. Make any project on any day — even ones not on the Maker Camp 2014 list. Check out past Maker Camp sessions, makezine.com and the Maker Camp affiliate page for project ideas.

Showcase projects made at home

You may have limited Maker Camp program time, but there's no need to stop making! Encourage campers to keep creating on their own. Consider including time for show and tell in your affiliate site's camp day.

Sharing

Post photos, videos, or comments

Post as a campsite

Take pictures or videos while your campers are making. You may even want to hand over the camera for campers to take pictures themselves. After each day of camp, post a set to the Google+ Maker Camp Community, or post as you have time.

Ask your campers what they would like to share on the community. What was fun? What was challenging? What tips do they have for other campers?

Don't forget to check out what other campers are posting on the site and +1 or comment as a group on things that wow you.

Post as individual campers

Campers age 13 and older (or younger campers posting with their parent) can participate in the Maker Camp online community anytime. This is a great way to extend Maker Camp beyond your site's scheduled program hours.

Encourage campers to share photos, links, and +1 other campers' creations. Maker Camp HQ will be awarding badges to campers for their creations, so share what you made!

Promo

Prep

Watch

Make

Share

Calling Campers!

Invite kids and teens from your community to make! Share your Maker Camp program hours and details on your website, and create a Google+ page for your affiliate site.

Check & Collect

Check out Make's Google+ page and makercamp.com. Decide which hangouts to watch and projects to try. Check the posted materials lists, scavenge what you can, then head to the store for the rest.

All-Camp Hangout On Air

Watch the Google+ Hangout as a group. Every day, the Camp Directors and Counselors visit with different Guest Makers. Ask questions live, or even appear on camera with advance planning!

Create at Camp

Arrive early to set up your space with everything you'll need. When campers arrive, share the day's project. Chat with campers about tips & tricks, safety, suggestions for hacks and improvements.

Around the Campfire

Join fellow campers on Google+ Maker Camp Community. Share in person with each other and online your comments, photos, and videos and check out what they made! Maker Camp staff engage with campers regularly.

Before Maker Camp

Reveille!

Get familiar with Google+

Maker Camp is all about interactivity and participation! To get ready for the first day of Maker Camp, each camper should create a Google+ profile and follow Make. (For details on how to do this, please see *Camping on Google+* on page 7.) Once on Google+, campers can interact with other campers and other friends, and follow along with Maker Camp's daily projects and weekly Field Trip Fridays. Then campers can show off their creations with photos and videos!

IMPORTANT! Please NOTE that Google+ rules require that you must be at least 13 years old to create a Google+ account (as with all online accounts—whether Google+, Facebook, or Pandora). Google monitors this requirement closely to protect kids under 13, so to prevent loss of accounts belonging to kids registered as younger than 13, please be sure that all campers creating or maintaining their own accounts are 13 or older. Kids younger than 13 can still participate in Maker Camp using a parent or guardian's Google+ account.



Create a Google+ page for your campsite

We strongly urge all Maker Camp Affiliates to create a Google+ page. If you split your campers into project teams, ask each team to maintain a Google+ page to share their experience as well. A Google+ page is a great tool to use to connect to other Maker Camp programs, as well as to connect to the greater maker movement you're building with us. You can use your Google+ page to document projects made by your campers, to recruit new members, and to maintain a schedule of sessions. Building a Google+ page is easy.

HINT: Use tags related to making (DIY, science, engineering, do it yourself, art, kinetic sculpture, hands-on, Make, Makerspace, Maker Faire, Young Makers, Maker Camp). These help those who do relevant searches find your page.

Once you have a Google+ page, you can:

- Post photos and videos of completed projects
- +1 other campers' projects
- Share photos with friends, parents, others

Prepare your computer(s)

Some Maker Camp projects will require software that may be new to you—and to your computers! Any computers your campers will use for Arduino, Scratch, or Audacity, for example, will need to be pre-loaded with the necessary software.

Find out who has administrative privileges to load software, and plan in advance. Check if Google+ works, too!

Prepare your space

Think about how your space and projects mix. Some projects are best done on a table with chairs, while others require lots of space to move around.

What We Hope Kids Will Do During Maker Camp

- Try something new!
- Learn something new!
- Feel inspired to try out a lifestyle that celebrates and incorporates frequent making, crafting, and creating.
- Meet other campers at other sites.
- Share their projects with campers on the Maker Camp Google+ Community page.
- Get comfortable using Google+ as a place to share, meet people, & hang out.
- Spend most of their time making and also playing outside: It's summer!
- Meet and interact with numerous makers through conversation, demonstration, and hands-on interactions.

Watch a Hangout from 2013

Maker Camp is different every year, but watching a hangout from a past summer will give you a good sense of what Maker Camp Hangouts are all about. You can find Maker Camp sessions on YouTube on the Make channel, or linked on makercamp.com.

Try out projects

If you have time, try making the projects you select for your Maker Camp in advance of doing them with your campers. Not only will you get to make, you'll also be testing your tools and materials.

If you don't have time to test in advance, don't worry! Daily and weekend projects are explained in the hangouts, and we post instructions for every project.

Stay tuned for updates!

makercamp.com/affiliate-program/info

What to Expect from Us

- Make the camp an all-around positive one for all participants.
- Engage with campers & facilitators of all grades and backgrounds, treating all fairly and equally.
- Show, teach, and play with campers as interactively as possible (on a large scale!).
- Convey a positive sense of the importance of following one's passion and becoming a maker.
- Encourage kids to continue making!
- Support the goals of individual campsite facilitators.
- Maintain safety for all campers online and in the "real" world.
- Motivate each camper in his or her development of innate curiosity and love of learning in formal & informal settings as a way to grow as a creative maker.



Things to do before camp

- Use your promo pack to reach out to your community and promote Maker Camp at your site.
- Update your website with information for interested campers like program times, ages welcome, and details on how to take part.
- Create a Google+ page for your Maker Camp or organization.
- Collect items for reuse by creative campers.
- Introduce your campers to maker culture, and to the idea that they are all already makers!
- Gear up to document camp with photos, videos, notebooks, binders.
- Start making with your campers anytime you like! No need to wait for us.
- Check makercamp.com, as well as your email regularly for updates.
- Using the goodies you got in your promo kit, set up incentives for your campers.
- Connect to other Maker Campsites like your own or which are nearby.

Pack for 6 weeks of fun!

Maker Camp is an online camp that's totally interactive, so you'll need ...

- An Internet connection to access makercamp.com and Make's Google+ page and a computer, phone, or tablet.
- A large screen or projector and speakers if you are sharing HOAs with a large group of campers.
- Computers for your campers to use, if available.
- A webcam and good microphone for a great appearance when you participate live in one of our HOAs.
- Basic tools like scissors, screwdrivers, wire cutters, pliers, duct tape, hobby knives, and AA batteries.
- Tools for advanced projects: drill, handsaw, heat gun.
- Optional kits like littleBits, Raspberry Pi, Squishy Circuits, which may not be included in your affiliate starter box.

While many of the project materials are likely already available in your home and/or organization, you may need to buy some items.

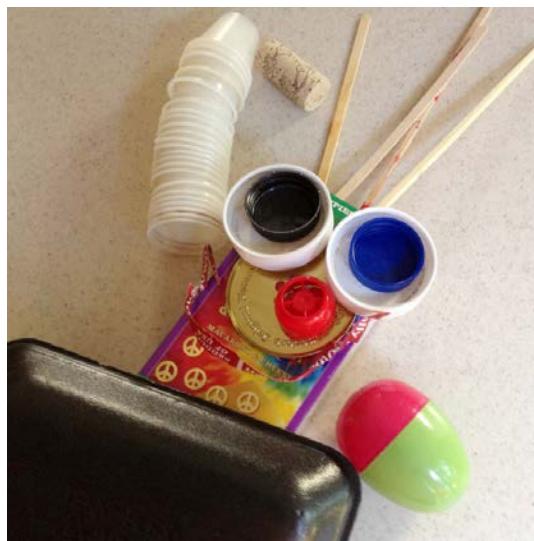
Poke your head into Maker Camp's trading post on Maker Shed (makershed.com/makercamp), where we make it easy to order supplies for your camp program.

We offer free shipping for all Maker Camp affiliates with checkout promo code CAMPROCKS.

As a Maker Camp affiliate, you will receive the starter box items (right) and a promo pack (like the ones below).

Many materials best suited for making are abundant and free. Stock up using our golden checklist for scavenged materials: have the items on-hand for an "invention bin" or "idea box."

makezine.com/2013/08/22/the-hunt-for-junk/



125+	LEDs (3–10mm grab bag)
50	Batteries (coin cell CR2032)
50'	Copper Tape (for paper circuits)
12	Learn-to-Solder Pins
2	Soldering irons, solder, flux, cleaner
1	Makey Makey
1	Ultimate Arduino Microcontroller kit
1	Arduino Uno & USB cable
1	Getting Started with Arduino (book)
1+	issues of Make Magazine
5+	other books on making
1+	Grab bag of surprise elements!



SCAVENGE YOUR NEIGHBORHOOD!

LOOK AROUND! YOUR NEIGHBORHOOD CAN BE A TREASURE TROVE OF GREAT MATERIALS AND TOOLS FOR MAKING.

CURBSIDE FREEBIES

Even though some of it can be tricky to snag when you're out on your bike, you'll want to find a way to carry the occasional piece of lumber or discarded electronics back to your home base.

GARAGE SALE

Need a hammer and some nails? How about someone's stash of practically new craft supplies? Just remember to haggle — these sellers are trying to get rid of their old junk, and they want you to take it away!

SURPLUS STORE

Where else are you gonna find a box of turbo-encabulators with prefabricated amulite, surmounted by a malleable logarithmic casing whose two spurving bearings are in a direct line with the pentametric fan? Only at Colonel Scratchy's Military and Scientific Junk Emporium!

CONSTRUCTION SITE

No need to hop the fence after hours — the site foreman will gladly unload unwanted lumber, foam board, and other random bits and pieces. Just ask nicely.

THRIFT SHOP

Grab your coin jar and spend your pennies on how-to books, tools, and cheap electronic gadgetry. You'll find aisles and aisles of value.

DUMPSTER

One man's trash is another man's treasure. Get permission from the owner before diving in for cardboard boxes and wooden pallets, and always keep a sharp eye out for rats and rusty nails. Yuck!

Camping on Google+

Getting started on Google+

1. Go to plus.google.com.
2. Create (or link) your Google account.
3. Complete your +Profile.
4. Then, create a +Page for your organization.
 - Select "Pages" from the menu on the left.
 - Then, select "Create a page."
 - Pick a category that best describes your organization.
 - Add descriptive information, such as your desired +Page name and website.
5. Complete your +Page.
Make sure that your Google+ Page is complete and interesting before you start promoting it. This can help people discover you when they search. Fill out your whole profile, and include:
 - Pictures
 - A link to your website
 - A clear, detailed description in the 'About' section.
 - Videos, if you have them: share links as posts and then also add to the 'Video' section.
6. Welcome people to your page with your first post.
7. Add +Make to your Circles by clicking on the Follow button.
<https://plus.google.com/+Make>
8. Add +Maker Camp Community to your Circles.
bit.ly/makercampcommunity
9. Invite a friend for a practice Hangout.

Using your Google+ page

Encourage campers and their families to follow your page.

Last year, over a million campers from around the world added **Make:** to their circles and attended the first year of Maker Camp for 30 days of projects—then shared their experiences with other campers on Google+.

"Follow us on Google+" Promote your Google+ profile, on your website, other social media channels and in email signatures.

Post frequently to keep your campers and their followers engaged. The more you post, the more likely that people curious about Maker Camp will find you. But don't overwhelm your page by posting everything at the same time. If you post more than once daily, spread your posts throughout the day.

Try different kinds of posts, questions, and shares to see what works best for you and your followers. Let any reaction to your content guide you and help you adjust. Have a look around the Maker Camp Google+ Community to find out what other organizations are doing, and start following them.

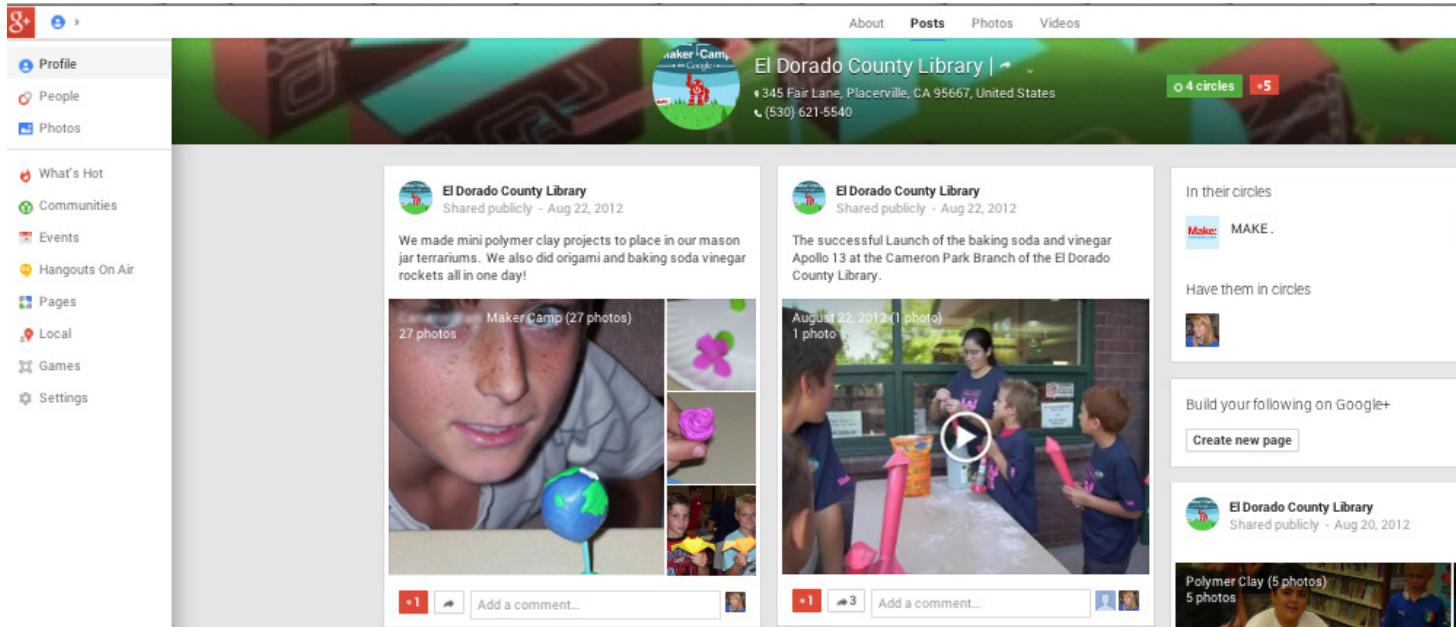
Please visit our help center if you have any questions.
support.google.com/plus

Explore Maker Camp's Google+ Community

The Maker Camp Google+ Community page is a way for campers to interact with Maker Camp HQ, and for us to interact with your campers.

With Google+, you (and we!) can:

1. Bring together campers.
2. Raise the visibility of all the Maker Campsites.
3. Learn from other camp leaders and campers by keeping up with the discussions.



The screenshot shows the Google+ page for El Dorado County Library. The sidebar on the left includes links for Profile, People, Photos, What's Hot, Communities, Events, Hangouts On Air, Pages, Local, Games, and Settings. The main content area displays a post from 'El Dorado County Library' shared publicly on Aug 22, 2012. The post reads: "We made mini polymer clay projects to place in our mason jar terrariums. We also did origami and baking soda vinegar rockets all in one day!" It includes a photo of a child making a clay project and another photo of a rocket launch. Below the post are options to add a comment and share. To the right, there are sections for 'In their circles' (with a 'MAKE.' badge), 'Have them in circles' (with a profile picture), and 'Build your following on Google+' (with a 'Create new page' button). Other posts visible include one from 'El Dorado County Library' on Aug 20, 2012, and one from 'Polymer Clay' on Aug 22, 2012.

Participate on camera, LIVE in Maker Camp

We want YOU to be a visible part of our hangouts. Contact superaffiliate@makercamp.com to have your site on screen during the hangout. Here's a checklist to make your appearance is the best it can be!

A Hangout On Air (HOA) gives campers a unique opportunity to engage with Makers, go on epic field trips, and get to know each other better. Anyone can watch and ask questions, but as many as nine windows can interact on camera. All camp HOAs are recorded and archived on Make's YouTube channel.

Collect signed releases. Parents or guardians of campers must fill out and sign two releases (one for participation in Hangouts on Air and the other for Maker Camp advertising/marketing purposes). Please collect these waivers for all campers—as well as for any adults participating in Maker Camp—before joining a Hangout on Air. We suggest that you distribute these forms right away.

Prepare technically. Every device that joins a HOA must have the hangout plug-in downloaded. Make sure to test your Internet connection, cameras, background lighting, mics, and other equipment well ahead of time. If you are new to Hangouts, practice using them with a friend before you are live on a Maker Camp HOA.

- Browsers: Google Chrome 10+, Microsoft Internet Explorer (IE) 8+, Mozilla Firefox 16+, and Safari 4+
- Operating Systems: Mac OS X 10.6+, Windows 7 / XP / Windows Vista with SP1 or later, Chrome, Ubuntu and other Debian-based Linux distributions
- Processor: Any 2 GHz dual core or greater

Turn off WiFi and plug into Ethernet. An ethernet connection is always best. If you must use WiFi, first test the bandwidth on speedtest.net, and make sure it is really, really good!

Check your bandwidth. Verify you have at least 1.5mb up/down with SpeedTest.net. Ideal speeds 3–4MB. Google suggests a bandwidth of 5 Mbps for all our Maker Camp HOAs.

Prepare pictures and videos. If you would like to share a video or photos, get them ready ahead of time and test them in another window before you Screenshare. Our Maker Camp camera crew can help control which window is featured while the video is playing, so you can also send us links ahead of time so we can play the video from Maker Camp HQ.

Close all your other windows (except those you need for Screenshare). The cleaner your computer is as you start, the better. Having the stream open in another tab or window will cause echo and feedback, for example. You can make sure you have a clean slate with these steps by restarting your computer and opening only Chrome before joining the HOA. (Text documents and web-based emails are OK to have open.)

Sound check. Make sure your audio works properly by testing your mic beforehand. If needed, headphones with a built-in microphone can help eliminate background noise and focus your audio. (On a Mac, you may also want go to System Preferences / Sound Panel and un-check the box next to "Use ambient noise reduction," under the Input Level.)

Check your settings. Access settings at any time during a Hangout by clicking the gear icon at the top of the window. This page helps confirm that your computer is set up and ready to use. Select the correct setting when using an external mic or video camera (this helps with troubleshooting problems, such as when your mic or video isn't working).

Keep good sounds in, bad sounds out. Set up in a quiet area with minimal background noise. Mute your mic when you're not talking to cut down on glitches. Broadcasts sometimes pick up the sounds of keyboards typing and people moving around. To mute, click the microphone button at the top of the hangout window. That icon also unmutes you when joining.

Be on time, and leave when right. Be ready at your computers to join at the time we tell you, and leave the HOA on a specified cue. We'll be on the Hangout at least 30 minutes prior to webcast time to make sure you feel comfortable and to run through the plan for the flow of the Hangout. We'll sometimes do a run-through the day before to test and correct any issues with bandwidth, lighting, and other quality control factors.

Stay visible. Be sure your space is well lit and that viewers can see you clearly on their screens. Frame yourself well on screen. Set up lamps or other lighting if necessary. Avoid having a window or other light source behind you, as this will darken your face or make you into a silhouette.

Wait a moment. When we're ready to go live, there will be a 2–10 second countdown before the broadcast actually goes live. Give it a few seconds to be sure we're on before you talk so that you won't be mid-sentence when the HOA starts.

Chat live while we're live. Communicate with our hosts and Maker Camp HQ by clicking on the chat option on the left side of the Hangout window. The live chat box is not broadcasted or recorded. It can be seen only by the two to nine live participants joining you on-screen.

Talk to each other, but remember your audience. Our target audience is ages 13–18, but we have kids who are much younger tuning in. That said, don't talk down to the kids who watch, and don't geek out too much either during your HOA conversation. Just keep it friendly and interesting. You're just "hanging out" ...on air!

Keep it interactive. We'll re-introduce you a few times during broadcast. While we might explicitly open up to "audience questions," don't wait for permission to ask a question!

Keep it legal. Do not stream unauthorized third-party content, such as unlicensed music, pictures, and video.

Need to hide? To turn your video stream to solid black, click the video button at the top of your window.

Get back on. If you get kicked off, you should see the option to rejoin. If you do not see that option, the host can re-invite you.

Tell people you're on! Before, during and after the broadcast, +1, share, comment, and spread the word that you are having your 15–45 minutes of fame with Maker Camp!

General Hangout Information

google.com/+learnmore/hangouts

Camp Culture

Stay safe

We cannot emphasize enough safety's importance. Model safe behavior in your own actions, and organize your workspace to be tidy and spacious with enough room to move around freely and without danger. Clear pathways to tools, exits, and safety equipment. Keep the space well lit and ventilated. To help your camp be a safe and positive place to hang out and create, your campers should have a shared understanding:

- Purpose: What are we doing here?
- Emergency: Where is the first aid kit?
- Tools: How do we use the tools safely?

As safety becomes second nature to your campers, they'll feel more at ease when using tools, knowing they've done all they can to protect and prepare before lifting a tool or clicking its power switch. Try not to scare your campers, however. Accidents happen when proper steps aren't taken. Millions of people make with dangerous equipment every day without incident.

Post clear and visible warning signs on all equipment and where necessary. Provide personal safety equipment such as goggles, earplugs, gloves, etc. to those who don't have their own.

Accidents may happen. When and if they do, let's hope they are all minor. Keep a well-stocked first-aid kit visible and easily accessible throughout your space.

To write your rules, adapt another set of rules to the idiosyncrasies of your setting. Add more as you go along (campers reveal new rules all the time!). Common safety rules can be summarized briefly as:

- Protect yourself. Dress right. Shield eyes, hands, and feet. No loose clothing, jewelry, long hair near machinery.
- Use tools correctly. Train and prepare.
- Don't startle or distract anyone using a tool.
- Report all injuries.

We go into these basic rules in greater detail in our Makerspace Playbook, available at makerspace.com/playbook.

Keeping it "campy"

Summer is a unique time of year for most of your campers: months of unstructured time and free play, and Maker Camp fits right into the spirit of the season. There's no reason you can't sample some of the best parts of traditional summer camp. You can have fun with the metaphor of summer camp itself by introducing campy elements and giving them a maker twist:

- Get outside, or bring the outside in. Take advantage of WiFi and long Ethernet cables. Collect natural materials to have on hand and add ambience. Pitch a tent.
- Stay playful with active games, get-to-know-you icebreakers, and funny personal nicknames.
- Give your camp a unique identity and celebrate your name and logo with T-shirts, flags, and schwag.
- Camp Legends! Post pics of what you made onto the Maker Camp Google+ Community page to create a Camper Wall of Fame!

We have more ideas for camping it up, all shared on our website makercamp.com.



Maker Camp
is mobile!
Go outside!

Share

Everyone has a digital camera these days, so it's easier than ever to crowd-source the task of documentation. Encourage campers to use a tag for your Maker Camp (e.g. "makercamp-SF-2014") as well as our generic "makercamp" in advance. You can also ask them to share pictures via email.

Post photos and videos of campers completed projects. The network of all Maker Camp affiliates appreciates your sharing of notes, write-ups, images, and videos from your time making together. Ideally you'd share these throughout Maker Camp during each day or at the end of the day on Google+ (either on the Make Google+ page, or on the Maker Camp Google+ Community page).

Share photos with friends, parents, others. Share Maker Camp with the broader community. Ask campers to send links to friends (who can also join Maker Camp wherever they are!) Send regular updates to parents, your colleagues, administrators, community members, etc. Drop a line to the local press and other media outlets — they may come look at what your campers are making!

Give feedback and (+1)s on other campers' projects. Browse other camps' Google+ pages. Campers can give their stamp of approval to other campers' projects by hitting +1 and giving constructive feedback (all with good intentions!) on them.

Record video. Bring a digital camera to all your camp sessions. A good microphone captures conversations and sounds of building, but, it's not essential. You can always add voiceover or an energetic soundtrack over footage you capture. We suggest shooting some of the following:

- Candid moments working together
- What projects looked like in progress
- A sequence of stills for time-lapse
- How-tos. give back to the DIY community and the maker movement by having your campers record videos about how they did what they did
- Ask the campers questions like ... What was hard to do? What was easier to do? Did that surprise you? How long did you work on this project? How did you get started? Were there any interesting challenges or spectacular failures? What's the behind-the-scenes story? What's next?

Week 1



Be it by land, sea, or air, makers are always moving, using the things we build to propel ourselves forward with the power of our imaginations. Being a part of Maker Camp means you're on the move as well, and it's no coincidence we'll be launching this awesome summer-long journey from the spaceport to the future, the New York Hall of Science.

Maker Camp launches with a blast!

Stomp Launcher: Campers love to stomp! Make it extra theatrical by having everyone count down: 3...2...1...Stomp! Mark the target stomp location on your bottle with permanent marker, or you'll end up going through a lot of bottles. Start collecting milk jugs and 2-liter plastic bottles now for one, two, or more PVC launchers! makezine.com/projects/milk-jug-rocket-launcher/

Have a larger group of campers? Build a stomp launcher or two and let every camper build (and decorate!) their own rocket. Make sure your campers know not to launch rockets at one another, and to hold onto a friend if they need to when they jump with their full weight. Ask campers to wrap a hand around the mouth of the pipe when reinflating the launcher to protect against germs.

Paper Rockets: Follow step 9–12 of the activity linked below using this simple template. Don't forget to use plenty of masking tape to seal your nose cone.

makezine.com/projects/make-15/compressed-air-rocket
tinyurl.com/rockettemplat

LED Soda Bottle Rocket LED Fireworks: July 4th has just passed, and you can make it a 4-day weekend with your own reusable pyrotechnic display.

[makezine.com/projects/soda-bottle-rocket-led-fireworks.](http://makezine.com/projects/soda-bottle-rocket-led-fireworks)

Foam Rockets: A more durable rocket (pictured below, left)

makezine.com/projects/high-pressure-foam-rocket

Vinegar and Baking Soda Rockets: Looking for the fastest way to blast off? Use a chemical reaction to pop your paper rocket in the air! This rocket uses a plastic film canister to contain the pressure until...pop!

makezine.com/projects/vinegar-and-baking-soda-rocket

Feeling more grounded?

Spool Racer: Look up wheeled designs that rely on the potential energy of rubber bands, including this one by Howtoons. tinyurl.com/howtoonsspoolracer.

Fastest Toy Wood Car: Although this design uses a laser cutter and inline skate wheels, you can also improvise. Cut wood with a hand saw, or even substitute cardboard. Use anything that's round for wheels, from plastic beverage bottle caps to metal jar lids. makezine.com/projects/make-32/fast-toy-wood-car



Makers in Motion

July 7–11

Field Trip Friday: Google Treks

Project Spotlight

Heron's Fountain

makezine.com/2008/06/08/build-herons-fountain-1

Make a water fountain without electricity using physics! This hydraulic machine has been around for millennia, invented by inventor, mathematician, and physicist Heron of Alexandria.

How long you'll need 1 hour or less (without decoration)

Where to do it Near a water supply. Activate in a space that can get wet.

How to group campers Individually / in pairs

What to know It will run for a few minutes before needing to be reset. When drilling your holes, be sure to put a thick board under them so you don't drill into your table. If you don't have a power drill, a hand or push-drill will work just fine. Make sure your drill bit is slightly smaller than the tubing for the best fit. This fountain relies on pressure, so if it isn't working, check for leaks and seal with play dough or modeling clay.

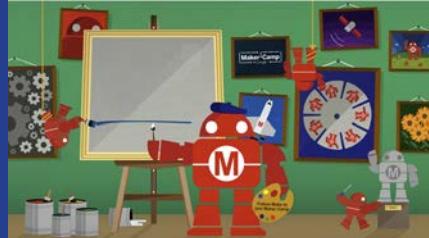
How it works Activate the fountain by pouring water into the top. The water in the top section drains to the bottom, putting air pressure into the middle section. This in turn forces the middle section's water up and creates a fountain.

Things to try Make modifications to see how high you can get your fountain to go. When you're done playing with physics, consider dressing up your fountain. Draw designs with permanent markers, or use Mod Podge to attach pieces of tissue paper for a stained glass effect using this technique: makezine.com/craft/how-to_stained_glass_votive_ho

Get inspired Hydraulics and pneumatics are used in all sorts of moving machines, from low-rider cars to Festo's Bionic Kangaroo. Continue exploring what can be moved with water by trying this activity: instructables.com/id/Open-Ended-Hydraulic-Machines

Show them off Line up your camper's fountains and start them all at once for a show worthy of Las Vegas. Be sure to post photos or video of your water works to Google+!

Week 2



When we make something, we're infusing it with a little bit of ourselves, whether it's a robot or a painting, and this week campers get to try their hands at merging form and function to create things that are beautiful as well as useful. People say it's important to create art for art's sake; at Maker Camp we make for making's sake.

Art & Design Week includes hangouts with two pioneers who are combining art and technology: Becky Stern and Jie Qi. Stock up on specialty materials like conductive thread or copper tape in advance if you want to fully explore these exciting methods of incorporating LEDs into your art.

Soft Circuits



You might notice the LED Binder Clip Bling isn't the most comfortable thing to wear. So how does one combine electronics and clothing? Conductive thread!



There are many ways to use conductive thread, Makers even combine it with microcontrollers and sensors to create responsive wearables.

Buy your thread in advance online, since it can be hard to find in stores. While you are there, pick up some sew-on battery holders if you need them for your project. Conductive thread frays easily. Consider buying "self-threading needles" to avoid needless time with your eyes on the eye.

LED shoe clips, a great starter project, can also be combined with ribbon to make a brilliant bow tie. makezine.com/projects/led-shoe-clips

Paper Circuits

Light up your drawings, cards, and papercraft with circuits by combining LEDs and a battery with copper tape instead of wire. Aluminum foil duct tape (the metal kind without threads in it) can also be used.

Learn some basics of circuits and switches. highlowtech.org/?p=2505

Get inspired by the possibilities. technolojie.com

Hack your notebook with Nexmap's resources. nexmap.org/21c-notebooking-io

Your Affiliate Kit includes a 50-foot roll of copper tape, but if you need more, it can be purchased online (as from Amazon), or you can pick up Jie's brand new, easy to use Circuit Stickers at Maker Shed.



Art & Design

July 14–18

Field Trip: Cartoon Network Studios

Project Spotlight

LED Binder Clip Bling

makezine.com/projects/led-binder-clip-bling

Combine a light-emitting diode (LED) and coin cell battery for a basic circuit marriage made in heaven. This simple sandwich can be disassembled to save battery life. Attach your light to almost anything using the binder clip's metal wings.

How long you'll need 20–30 minutes

Where to do it Near a power source if you are using hot glue guns

What to know The long "lead", or leg, is positive (anode) and the short is negative (cathode). Your battery also has two sides, or terminals: the + indicates the positive.

To complete a circuit, slide the LED over the battery, with the long lead touching the + side. If the leads touch each other or are connected by something conductive, the circuit may short and the light may blow out.

Different colors of LEDs require different voltage. If they are too far apart, only one will light up. If you use more than two LEDs, your battery will run out quickly.

Be careful Coin cell batteries need to stay apart. Do not empty them in a container together. The terminals will touch, causing short circuits, which could ruin your batteries and potentially start a fire.

Ask campers to note which glue gun parts get hot (the tip AND the molten glue). Keep a bowl of cold water handy to immediately submerge any burns. Avoid glue guns by using craft glue dots instead.

How it works Learn a little more about LEDs. tinyurl.com/makeled.

Things to try When everyone has finished, make light paintings! Take pictures using a camera, tripod, and long exposure, or use your webcam with tinyurl.com/lightuppaint. Hint: download the desktop version of Glow Doodle and use the "s" key to save your light paintings to your computer in the application's folder. glowdoodle.com

Get inspired Becky Stern sternlab.org leads the pack in posting innovative wearables.

Show them off Find a dim space, turn on some music, and have an LED fashion show. Take photos and post them!

Week 3

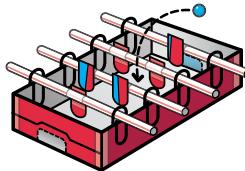


It wouldn't be summer if we couldn't take a little time to play, and this is the week we devote to making fun. Let's get outside and fly a home-made kite, or build a fort, or invent a new and exciting game to play with the friends we've met at Maker Camp. Whatever the outcome of the game, everyone wins when we make it ourselves.

Mini Foosball

Make this little game with basic materials like cardboard, paper clips, straws, and tape. Don't have a popcorn box? Make your own by modifying any box. Just make sure your straws are long enough to span the box in the short direction.

tinyurl.com/minifoosball



Summer Games

Explore a few of the many water blaster designs for soaking your fellow campers.

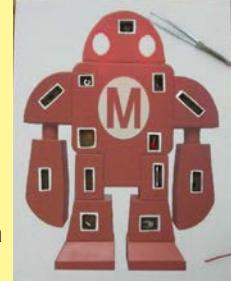
howtoons.com/?page_id=3435



Toys on the Cheap

We featured four of Arvind Gupta's free/nearly free toy projects (pictured right) in *Make: Volume 28*

archive.makezine.com/28/gupta



Origami Spinner

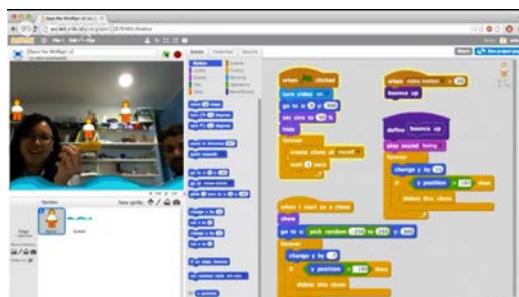
If your newest board game needs a spinner, make one out of paper.

makezine.com/projects/origami-spinner

Apps

Go high-tech and make your own apps using App Inventor, a free software program by MIT. Its graphical interface uses drag-and-drop programming and is very similar to Scratch, below.

appinventor.mit.edu/explore



Scratch

Many kids get started with programming by using the Scratch programming environment. We'll be visiting with the team at Aardman Animation in Week 6. The Learn & Make section of Shaun the Sheep's Game Academy gives tips on game design and how to build an awesome game using Scratch. Also, LEGO Day of Maker Camp 2013 featured real-world games to make using Scratch (go to 26:00 in the video when Eric and Tiffany explain and play.)

shaunsgameacademy.co.uk/learn.php

makezine.com/projects/intro-to-scratch

plus.google.com/u/0/+Make/posts/e2xzb34979

Fun & Games

July 21-25

2 Field Trips Friday: LEGO & Disney

Project Spotlight

Custom Operation Game

v1: makezine.com/projects/custom-operation-game/

v2: makeymakey.com/guides/pdfs/MaKeyMaKeyScratchOperationGame.pdf

Operation is a classic game that combines a steady hand with focus and excitement. Make your own using one of two sets of project instructions, or make a mash up!

How long you'll need 2-4 hours

Where to do it Anywhere, although the MaKey MaKey version needs a computer.

How to group campers In teams of 2-4

What to know To make a custom Operation game, you have three big things to decide: the board art, how to make the board, and how to make the sound.

For the board, you can either use a metal sheet (v1), or line your board with foil and copper tape (v2.) For the sound, you have a choice of using the battery and buzzer (v1) or a MaKey MaKey and a computer (v2.)

Create your game pieces using small found objects, Sculpey, Shapeloct, or make your own plastic with milk: tinyurl.com/milkplastic.

How it works The key to making a custom operation game is using conductive materials. Your tool is wired to the circuit, as is the board. When your tool touches the edge of the board, you'll complete the circuit and set off the buzzer.

Things to try If you use a MaKey MaKey, you can customize your sounds using Scratch, a free software program. Have each game board hole make a different sound, or even program your game to make a heartbeat sound when things are going well.

Get inspired Teens at the Lawrence Hall of Science made a large-scale Operation game. See it being made at 2:20 in the video at tinyurl.com/lhsoperation.

Show them off This game was made to be played! Keep finished games on hand to play all summer long. Watching people get startled by the buzzer is pretty funny, so take video and post it to Google+.

Week 4



Makers push the boundaries—where others see roadblocks, we see opportunities to overcome, using our imaginations and the tools around us. And if something we need doesn't yet exist, we make it ourselves. As part of Maker Camp, you accept the challenge to look forward, dream of better things, and then figure out how to make them a reality. It's up to every one of us to create the future, and learning how to make is the first step.

Science and technology offers many "A-ha!" moments of surprise and delight. Discover something new this week!

Smartphone projector

Want to make your little screen bigger? Create this simple projector for \$5.

makezine.com/projects/make-36-boards/5-smartphone-projector/

Camera Obscura

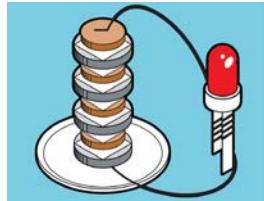
This simple but amazing project teaches so much about light and optics!

howtoons.com/?p=3586

Batteries from Everyday Things

You have the power! Light up an LED using lemons or pennies, and get to the heart of electricity.

makezine.com/projects/batteries-from-everyday-things



Solar Oven

Use the power of the sun to make a snack! There are many solar oven designs out there, but the easiest is a pizza box with tinfoil and black construction paper.

makezine.com/2008/06/12/solar-ovens-and-solar-coo

DIY Ice Cream

In the mood for a colder treat? Make some ice cream! This activity requires lots of ice and dedicated shaking. It's perfect for active campers.

tinyurl.com/shakeicecream



Vibrobot

You can make anything move by adding a battery, motor, and offset weight. This classic design was inspired by the wonderful windup toys by the Brazilian artist Chico Bicalho. Use a brush base instead of long legs to make brushbots, and build your design around a box or cup and add pens, markers, or chalk to make scribblebots. While not strictly a robot, these are a hit with kids!

makezine.com/projects/make-10/vibrobots
makezine.com/projects/beam-vibrobot
makezine.com/projects/scribble-machine

Science & Tech

July 28–August 1

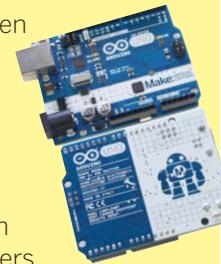
Field Trip: Google self-driving car

Skill Builder

Arduino Blink

makezine.com/2014/01/06/skill-builder-arduino-101

Arduino is a great solution when your project needs to sense, think, and act. Add sensors, motors, buzzers, displays, or lights to make your wildest ideas a reality.



Even if you have never used an Arduino, try it with your campers. Learn together! (The skill builder linked in red above was written by a 13 year old!)

Your affiliate kit includes two great books: *Getting Started with Arduino* and *Basic Arduino Projects*. You'll also find many resources at makezine.com and arduino.cc.

How long you'll need 1 hour or less

Where to do it Near a computer, USB port

What to know To use the Arduino, your computer will need free software called Arduino IDE (Integrated Development Environment). Load the IDE before campers arrive, or have them load it themselves.

Once you have the IDE loaded on your computer, investigate the "sketches" under File > Examples.

The best sketch to start with requires no additional parts. Open Basic > Blink. Click the arrow pointing right to load it on your Arduino using a USB cable. Once it's loaded and saved on the Arduino, its LED will start blinking. Now go back to your sketch and change the blink time in the delay numbers. Upload and see what happens! Keep tinkering and exploring example sketches.

How it works Arduinos are microcontrollers that can be programmed to perform tasks. Attach electrical components with wires using a breadboard or shield, which is a part that connects on top of the board. The Arduino can be powered by the USB cable, or you can use an external power supply.

Things to try Your Ultimate Microcontroller Kit includes all you need for any projects in the *Basic Arduino Projects* book.

Get inspired Discover your next project. Arduinos can be used to create everything from epic LED light sculptures to robots. Check out bit.ly/makearduino

Week 5



We may not know the name of the song, but if you hum a few bars, we can probably build an instrument to play it on. At Maker Camp this week, we celebrate music by learning how we can make it ourselves. While building a guitar or an amplifier may seem like something only craftspeople can do, you'd be surprised what you can make with a few parts scrounged from around your home. And once you've made your own instrument, it'll be time to jam with the other campers and make some noise!

There are so many ways to make music, from simply plucking a rubber band to complex electronics.

Piezo Contact Mic

Piezos are amazing. They turn mechanical vibrations from a solid object into electricity. Plug it into an amplifier, or substitute a headphones jack and speakers, to hear everything loud and clear.

makezine.com/projects/make-38-cameras-and-av/piezo-contact-mic

Arduino Theremin

Make wacky music by waving your hand over a light sensor. The Ultimate Microcontroller Kit has all the parts to make the project listed in the *Basic Arduino Projects* book, or check out a different take: makezine.com/projects/arduino-theremin

Easy Boombox

Who needs speakers when you have earbuds and paper cups?

makezine.com/projects/easy-boombox

Styrofoam Plate Speakers

An even better way to amplify sound using a disposable plate, wire, and magnets.

makezine.com/projects/styrofoam-plate-speaker

MonoBox Speakers

Ready for the next step in speakers? Try this Weekend Project, featured in Maker Camp 2013. makezine.com/projects/make-34/monobox-powered-speaker-2

Electric String Bass

Campers ready for a more challenging project can make their own bass.

makezine.com/projects/elastic-string-bass

Turkey Baster Flute

Just add water and blow across the top. Squeeze the bulb to change notes.

howtoons.com/?page_id=1720

DIY Music

August 4–8

Field Trip Friday: Blue Man Group

Project Spotlight

Auditory Illusions

tinyurl.com/makeauditoryillusions

Perhaps you've heard of optical illusions, but did you know you could create auditory illusions? Explore your sense of hearing by creating weird sound tricks and effects.

Time 10–30 minutes per illusion

Where At a computer with stereo headphones

What to know Use Audacity, a powerful, free audio editing software program

Download: audacity.sourceforge.net

Resources: wiki.audacityteam.org

How it works Each Auditory Illusion is explained in detail in the *Make: Volume 39*.

Illusions:

Binaural Beat: "It only exists in your brain."

Phantom Rotating Tone: "It sounds like it's moving."

Franssen Effect: "Sound from nowhere."

Haas Effect: "Sound that seems to vanish."

Verbal Transformation: "Say what?"

Deutsch's Octave Illusion: "Flipping reality."

Fractal Sound: "The same at twice the speed."

Things to try Think about how sound influences your experience of something visual.

Use your auditory illusions to enhance a video, play, or stop-motion animation. How wacky can you make it? How does the sound change how you feel about the visuals?

Get inspired To explore the science behind visual and audio illusions, check out the websites of Michael Bach and Diana Deutsch. michaelbach.de/ot —AND— deutsch.ucsd.edu

Show them off Make a video that includes your auditory illusion as the soundtrack, and share it on the Google+ Maker Camp Community.



Week 6



In a world where the line between reality and fantasy is thinner than a carbon nanotube, making our imaginations come true can be a whole lot of fun. In this final week of Maker Camp, we bring a little Hollywood magic to life, learning about special effects and makeup, and exploring the "make" in make believe.

Campers can create a performance in minutes—or hours—using simple materials like paper, wood dowels, brass brads, string, and tape.

Shadow Puppets

There are many ways to make shadow puppets, but in essence you need a dark space, something opaque that casts a shadow, a strong light source, and a translucent screen. From there, just use your imagination!

Check out this theatrical Howtoon with basic steps for creating a simple shadow puppet and theater. www.howtoons.com/?page_id=1796

Try using polycarbonate, also known as Lexan, for the "ultimate" puppet making material. By using a clear, rigid material, you can add color to your shadows.

video: makezine.com/2006/10/07/weekend-project-podcast-s

instructions: makezine.com/2006/10/07/shadow-puppet-making-inst

Paper Animatronics

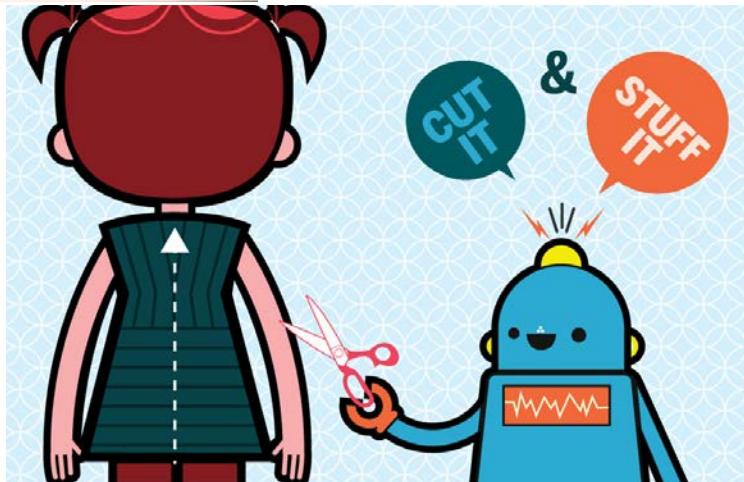
Take shadow puppets a step further. What if your craft projects could come to life, talking and moving about on their own? Learn the magic of animatronics using servos, Arduino, and a PC! We're working with makers to share a great project with you that uses these technologies and paper sculpture to tell a story. Your affiliate kit includes enough parts for two teams of campers to make this project.



Paper Animatronics

Shadow Puppets

Duct Tape Double



Make:Believe

August 11–15

Friday: Jim Henson's Creature Shop

Project Spotlight

Duct Tape Double

makezine.com/projects/make-39/duct-tape-double/

Make an easy custom mannequin using duct tape and an old shirt. Use your mannequin for sewing costumes, or use as a dummy in your next set or movie.

How long you'll need 1 hour or less

Where to do it In a space with room to move

How to group campers In pairs

What to know Making duct tape doubles requires two old, tight shirts and a roll of duct tape for every pair of campers. Every model should wear a shirt under the one that will be cut off.

Duct tape is much easier to tear than cut, especially since it quickly gums up scissors. To tear, twist it quickly, pulling one side toward you while holding the other. Try to pull it apart, and it will just stretch.

Be careful Be sensitive to issues around body image. Allow campers to choose their partner, as well as which role they prefer, model or tape tearer. The tape tearer will need to apply tape to hard to reach parts, like the back, but the model can apply and smooth tape to most of their own front.

When it's time to cut off the duct tape double, encourage campers to use care to only cut the tape and outside, sacrificial shirt.

Never stick duct tape directly to skin. Ouch!

How it works The duct tape transforms a stretchy material (shirt) into a less elastic, firmer shape. Notice how duct tape has threads running through it in both directions. Those threads help make it super strong.

Things to try Duct tape doubles can be made of any solid, dimensional object. Find an interesting, medium-sized object, wrap completely in plastic wrap, then follow the project steps from there.

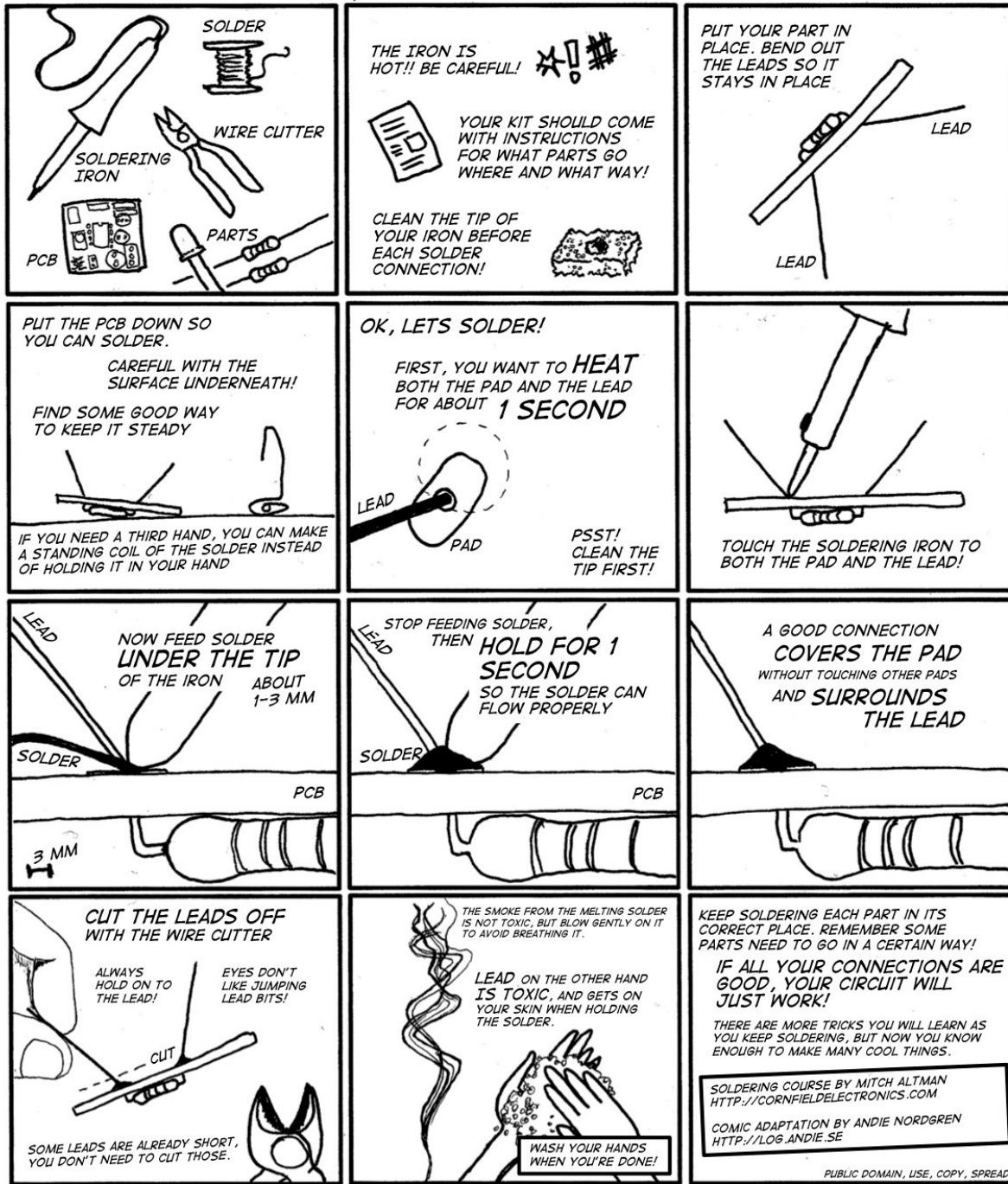
Get inspired Duct tape can also be used to create clothing! Check out the crazy prom outfits teens have made from duct tape.

tinyurl.com/stuckatprom2014

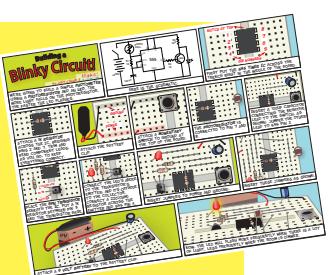
Show them off Have your campers make an artistic installation using the torsos, or use them as lead "actors" in a stop motion animation. Document and post to Google+.

SOLDERING IS EASY

HERE'S HOW TO DO IT



Use the simple, clear guide (above) to help your campers get the hang of soldering. Translated into dozens of languages, it's based on the workshops of Mitch Altman, who has taught "tens of thousands" of people to solder. You can also watch him on Maker Camp 2013 talking about his work in creating the future of technology. Another artist and educator, Jody Culkin, created a series of handy cartoon guides for Make:, and you can find these as PDFs on the affiliate pages of makercamp.com, your source for all kinds of helpful info and resources!



After Maker Camp

Taps...

Celebrate each camp week

On Fridays, we suggest you end each week with a big party or exhibition to celebrate the projects you and the campers made together, inviting parents and the community as well. Campers could put together slideshows, videos, or a camp-wide memory book.

Your event can take the form of a small Maker Faire, a rapid series of slideshows (a la Pecha Kucha or Ignite), or a short film screening. Campers could run workshops to teach their parents and other guests any new skills they developed over the course of the week. During the event, be sure to congratulate each camper, and try to get at least one picture of a project he or she made. You'll want these for your debrief, website, scrapbook, etc.

Producing a culminating event or record of your week fits in well with the maker movement—something that distinguishes our work in education is our emphasis on exhibition instead of competition. The pressure of a deadline and wanting to put your best work before others is adequately motivating without adding in the extra noise of battle or judges. The attention a project receives is all the evaluative feedback campers need to get a sense of accomplishment.

Add to the camp community

The network of all Maker Camp Affiliates would very much appreciate your sharing some notes, write-ups, images, and videos from your time making together on Google+. These help build the national and international community of makers, and we sometimes feature your Maker Camp efforts in *Make: Magazine* or on the makezine.com blog. Ideally you would share these all throughout the duration of your Maker Camp, but if you just really didn't have time to do it along the way, take some time to share after the fact.

Stay tuned for updates!

makercamp.com/affiliate-program/info

Congratulate & thank the campers

As soon as you can manage to do so after the end of your camp season, reach out to your campers to congratulate them on their good work. Thank everyone who participated in camp. Tell them again that you are very proud of your week(s) together.

Document your season

Organize photos taken along the way and put them in a location that everyone can access. Google Docs Collections is a free tool that helps you manage your visual assets and keep them available in the cloud.

Pull together documentation your campers made of their projects. Keep a record of all the projects that emerged from your Maker Camp in one place, like your Google+ page or on your website. Make the effort to get an image of every camper and/or project. When kids don't see a record of their work on your website, they notice and could take it personally. They might assume you don't appreciate their hard work.

Consider telling the story of your camp through a short, edited video, printed camp memory books, project binders, photos in simple frames, a small album, a poster, or a slideshow. When posting images or video, license them as Creative Commons, and then post on your Google+ page and email the link to makercampinfo@makermedia.com.

Contribute to this playbook

The Maker Camp Playbook is intended to be a living document, evolving as the collective experience of the network and its community of Maker Camps grows. Please email your comments to makercampinfo@makermedia.com.

Debrief and share best practices

We hope to learn more about how we can support establishing more Maker Camp affiliate sites, and about what works and what doesn't.

- Ask your campers to help you review what your camp accomplished. Turn it into a blog post or a video script.
- Write down notes about what you did, what worked especially well, and what you might change for next year.
- Before you lose touch with your campers, ask the if there's anything they wish they'd known before they started the camp season.
- Ask both campers and adults to give you feedback so that next year everyone can start the season ahead of the game.
- Share any new projects you added to the schedule (or any improvements on existing projects you made.)
- Collect data to share with us, like number of campers + adults, budget, successes, and improvements for 2015.

Share camper projects & ideas

After campers have made something, it's also important to share what they've made more widely. We hope they saw this in action during Maker Camp: dozens of makers eager to share their work. It's not enough to just make something—it's also important to be able to tell others about your project and why it is great. What do you want people to understand about your campers' projects? Sharing ideas promotes learning and discovery and can inspire others. Makers want to hear stories, such as, "We did this because..." or "We started here, and we ended up here." Collect photos, sketches, prototypes, failed pieces of the projects: anything that tells the story of how and why your projects came to be. Post on the Maker Camp Google+ Community page to share your making stories!

Contact us: superaffiliate@makermedia.com

Keep on making!

We think making is the best way to continue involving your campers in the maker movement after Maker Camp ends. Start by doing projects you may have missed over the past few weeks, and if you've exhausted those, tap into the projects featured in 2012 and 2013. The book *Blueprint: Maker Programs for Youth* includes an excellent list of dozens of sample projects.

Start a Maker Club or Makerspace

Build on your campers' interest and excitement for Maker Camp by starting a maker club or a makerspace. After summer, you can meet after school or during lunch. We have lots of tips for getting started on youngmakers.org and makerspace.com. Take a look at two playbooks that can get you going: Maker Club Playbook and Makerspace Playbook: School Edition.

youngmakers.org/playbook
makerspace.com/playbook

Plan ahead for next year

Give your campers some talking points about *Make:*, Maker Media, and Maker Camp, as people may ask them how they can start a Maker Camp or get involved in the maker movement. Give them any data you have, like how many projects your Maker Camp made, how many aggregate person-hours you worked on the projects, how many people attended any events you may have hosted, etc. If you have any links to great images, photo sets, videos, or media mentions, share those too—whether those that cover the event, your Maker Camp, or its projects. Share them with people who ask, and share them with us too! Share links on your Google+ page.

Contact us

superaffiliate@makermedia.com

More from MAKER MEDIA™

If you like Maker Camp, then we have lots more to offer you! Through media, events, and ecommerce, Maker Media serves a growing community of makers who bring a DIY mindset to technology. Whether as hobbyists or professionals, makers are creative, resourceful, and curious, developing projects that demonstrate how they can interact with the world around them.

Maker Media makermedia.com

A global platform for connecting makers with each other, with products and services, and with our partners. Located in the Bay Area of California, Maker Media is the publisher of *Make:* Magazine and the producer of Maker Faire. It also develops "getting started" kits and books that are sold in its Maker Shed store as well as in retail channels. The launch of the magazine in 2005, and Maker Faire in 2006 jumpstarted a worldwide maker movement, which is transforming innovation, culture, and education.



Maker Faire makerfaire.com

The Greatest Show (and Tell) on Earth—a family-friendly showcase of invention, creativity, and resourcefulness, and a celebration of the Maker movement. It's a place where people show what they are making, and share what they are learning. The inaugural Maker Faire was held in San Mateo, California. In 2014 it celebrated its ninth annual Bay Area event with some 130,000 people in attendance. World Maker Faire New York was founded in 2010, and in 2013 attracted 75,000 visitors. Thirteen cities host "featured" 2014 Maker Faires: Detroit, Kansas City, Atlanta, Milwaukee, Orlando, Atlanta, Paris, Rome, Oslo, Trondheim, Tokyo, Newcastle (UK), and Shenzhen. Over 130 community-driven, independently organized Mini Maker Faires are now being produced around the United States and the world.



Maker Shed

Make:'s online store provides budding makers with "projects in a box," otherwise known as kits. Just imagine the coolest, nerdiest bookstore, museum gift shop, arts and craft shop, and electronics emporium you can possibly dream up — now roll them all into one. You're in the Maker Shed! The Shed houses an irresistible collection of books, kits, robots, microcontrollers, science sets, electronics, craft tools, and supplies. Maker Shed is a year-round online store, and you'll also find Maker Shed pop-up retail shops at each of our flagship and featured Maker Faires. makershed.com

Online

Check out our popular blog makezine.com

Find out how to start a club or mentor a team of Young Makers at youngmakers.org

Learn how others have started up a space in schools and communities at makerspace.com

A message for campers & campsites

Camping has long been a tradition of summer that calls us to explore the outdoors, engage in fun activities and make new friends. Camping is a break from what we normally do in the course of the year. It can offer the chance to do something we've never done before. Overnight camps usually involve staying in cabins and gathering round campfires. Day camps are a more recent development, often featuring a special area of interest such as chess, computers, robotics or sports. Yet, no matter what kind of camp it is, or where it takes place, camp has to be fun and social.

Maker Camp is a whole new kind of camp, an online summer camp that is open to everyone. Maker Camp takes place wherever you are. You can do activities and share them with others through the Google+ platform. It's will be fun and feed your imagination.

This is the third year for Maker Camp. Like last year, Maker Camp will introduce a new project each weekday—30 projects over six weeks. You'll meet in live G+ Hangouts dozens of makers who create amazing things. You'll visit new places that few of us get to see. But this year's Maker Camp will be even better. The G+ Community for Maker Camp makes it even easier for you to participate and see what other campers are doing. We also have a much larger and more international network of affiliate camps, where campers are getting together in libraries and makerspaces.

Maker Camp hopes to foster the DIY (do-it-yourself) spirit. We want each camper to see how much there is that you can do and how much there is to explore all around you. Once you begin doing things, you meet others who share your interests and you can collaborate to work on projects together. We call that DIT (do-it-together). G+ is a platform that makes collaboration much easier and it extends to any location and any time zone. In fact, when Maker Camp comes to an end, you can extend the relationships beyond summer.

Maker Camp might not be located in a place surrounded by trees or near a lake. Yet it has many of the wonderful features of camping that will help you supercharge your summer. For instance, you might consider that the campfire is your computer. At Maker Camp, you will find an active, supportive community who get together to share their experiences.

What each of us can do is pretty amazing yet what we can do together is even more amazing. Join us at Maker Camp to see for yourself.

— Dale Dougherty

Dale is the founder of Make: magazine and creator of Maker Faire. He is the CEO of Maker Media, the company that produces Maker Camp, Make: magazine, Maker Faire and Maker Shed. He is also Chairman of the Maker Education Initiative (makered.org).



Maker Camp Tips from Dale

Get physical. How can you discover what's in the physical world around you? Do you see the differences between the natural world and built world? Take photos that you can share. Draw objects that you see around you. Ask where things come from or how old they are? Where are things made in your community and explore online to see if you can learn more about them. Share your photos, drawings or maps.

Find a new favorite tool. Tools exist for all kinds of applications. Given an area you're interested such as bicycles or music, what are some of the tools, both physical and digital, that you might want to learn to use. Choose a new tool and share it with us.

Do something you've never done before. Sometimes we decide that we're not good at something and we never try to do it. Part of the DIY spirit is to try something you've never tried before, even if you're not particularly good at it. Think of it as an experiment. See if you like it. Try cooking or gardening. Or playing a musical instrument. Or try to fix something that's broken. Share this new skill.

Meet a maker. Get to know a maker in your community. Learn what they do and how they do it. Write a story about this maker and share it with us.

Make something. You can making something for lots of reasons. You might make something that's a gift for someone else. It could be a cake or a greeting card, and you can add LEDs to either of them. You might make something creative that says something about who you are and what you like. It could be an article of clothing, as simple as a T-shirt or a wearable that lights up or plays music under the right conditions. You might design something that solves a problem — it could be a problem for you or a problem for others. Makers have been known to build devices to check on their pets or while others want a device to open the coop door in the morning for chickens. You could also build a device to monitor the quality of the water or air in your area. You might build something that's interactive such as a play toy, or a toy car or plane. Paper airplane launchers are popular as are rockets. There are so many things you might choose to make. Choose just one that's meaningful to you. Then use Maker Camp for show and tell; show us what you've made and tell us more about it.

Maker Camp on Google+

makercamp.com

is a great way for communities large and small to engage teens this summer with cool projects and activities. Everyone can join, no matter where they live, because Maker Camp is online and it's free!

Facts about Maker Camp

- Free for everyone on Google+.
- Runs from July 7th–August 15th.
- For projects, we post materials lists in advance. You'll have time to gather the supplies you'll need for the next day's project.
- 7 epic Field Trip Fridays (see right)

Maker Camp is a virtual DIY camp for teens, using the Google+ social media platform. Our six weeks feature how-to project instruction, inspiring maker profiles and interviews, skill-building techniques, and epic field trips.

Started in 2012, over a million campers from around the world added *Make:* to their circles and attended Maker Camp —then shared their experiences with other campers on Google+.

This year features all-new projects and maker adventures. Campers can follow *Make:* on Google+ to watch the Hangouts On Air and connect with other campers in the Maker Camp Google+ Community.

Watch Maker Camp 2013: A Look Back
[youtube.com/watch?v=Lcd0Pv2eCgk](https://www.youtube.com/watch?v=Lcd0Pv2eCgk)

A Camp for the Maker Movement

Maker Camp is brought to you by Maker Media. Maker Media publishes *Make:* magazine, produces Maker Faire, and offers DIY electronics, tools, kits, and books through its online and pop-up Maker Shed stores. Dale Dougherty, founder and publisher of *Make:* magazine, and CEO of Maker Media, says, "Maker Camp provides a unique experience for teen makers and their like-minded peers to explore, hack, create, and tap their creative juices. This is the next generation of makers who will be the innovators of exciting new products and services, and *Make:* is delighted to provide the environment that fosters hands-on learning through discovery, essential to this evolution."

	Dates	Weekly Theme	Field Trip Friday Destination
1	July 7–11	Makers in Motion	Google Treks
2	July 14–18	Art & Design	Cartoon Network Studios
3	July 21–25	Fun & Games	TWO! Lego and Disney
4	July 28–Aug. 1	Science & Tech	Google's Self-Driving Car
5	August 4–8	DIY Music	Blue Man Group
6	August 11–15	Make: Believe	Jim Henson's Creature Shop

30 Days of Discovery

We feature 30 all-new projects and maker adventures from *Make:* magazine. Join us for all or some of the themed weeks that work for your group, below, each week ending in an epic field trip. And don't miss our launch on July 7th from the New York Hall of Science and NASA, featuring Buzz Aldrin!

Campers can attend Maker Camp and join the projects on whatever days they want, and there is no limit to how many days they can attend. Lots of campers join every day of camp over the 30 days and make all 30 projects.

We designed Maker Camp to accommodate broad maker interests, so there's something that appeals to everyone. We have diverse daily activities across a spectrum of science, technology, tinkering, crafting, and weekly virtual Field Trip Fridays to visit amazing places (see above). Campers come and go as their interests dictate.

Affiliate Sites

Affiliate sites are places where campers can join their peers and participate in Maker Camp at a physical location such as a library, makerspace, museum, summer school or program, camp, club, or family. Maker Media provides this Maker Camp Playbook to facilitate hosting the camp at physical locations, with suggested curriculum for each week and a starter box of tools and materials needed to complete the recommended projects. The Maker Camp website includes a mapping tool to help campers find local affiliates in their community.

- Sign up for each Maker Camp event using Google+ Events to get reminders about each day's activity.
- Join the Maker Camp community on Google and connect with fellow campers during and after camp ends.
- Stock up from a special Maker Camp-only trading post on Maker Shed.
- Seek out Maker Camp affiliate sites in your local community (libraries, makerspaces, schools) where they can join their peers and participate in Maker Camp at a physical location.

We ask Affiliates to:

- Actively participate over the 6 weeks.
- Post videos, photos, comments of projects, experience.
- Provide feedback, comments, input about what works, what doesn't.
- Send a profile of their campers at their location (ages, gender, and photos.)
- Make camp available to all free of charge, or for a reasonably low fee no greater than a non-profit camp.

We may ask some Affiliates to:

- Participate in a post-Maker Camp "HOA" focus group.
- Be willing and available to speak with press and other media.

