



Maker•Camp

on Google+

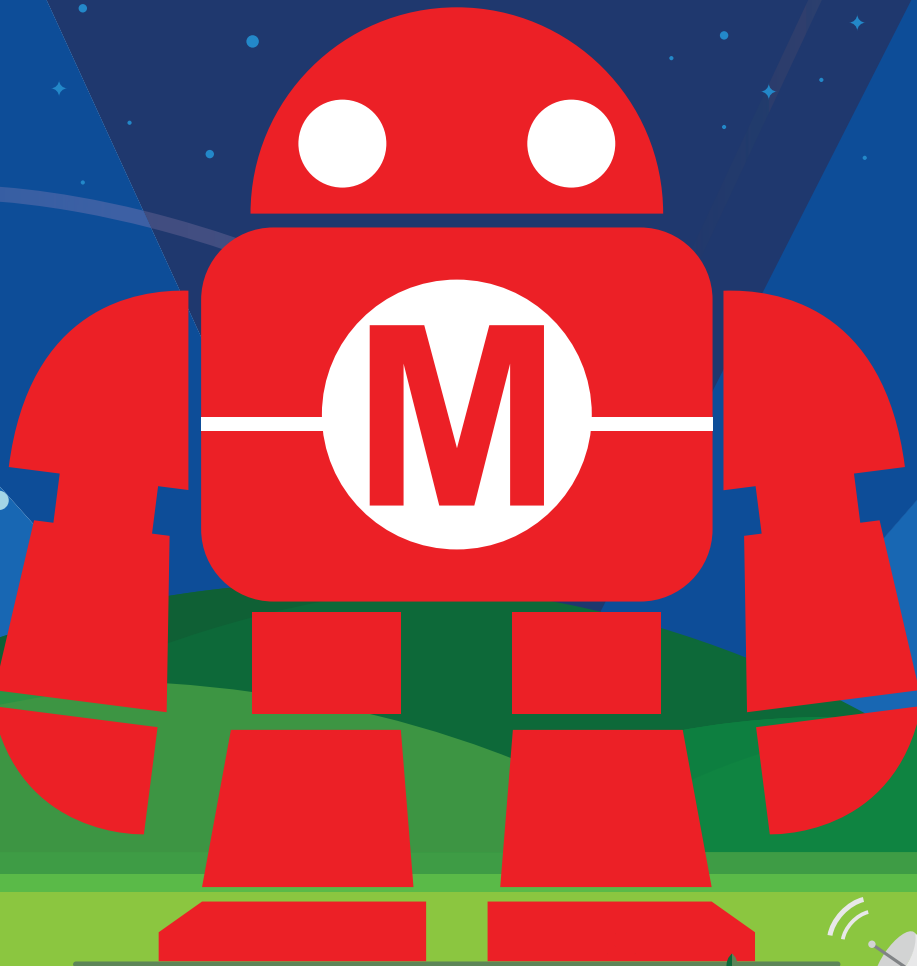
July 8th — August 16th 2013

Affiliate Site Playbook



Make:

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Google+ **Make:** IN PARTNERSHIP WITH  radioshack

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.

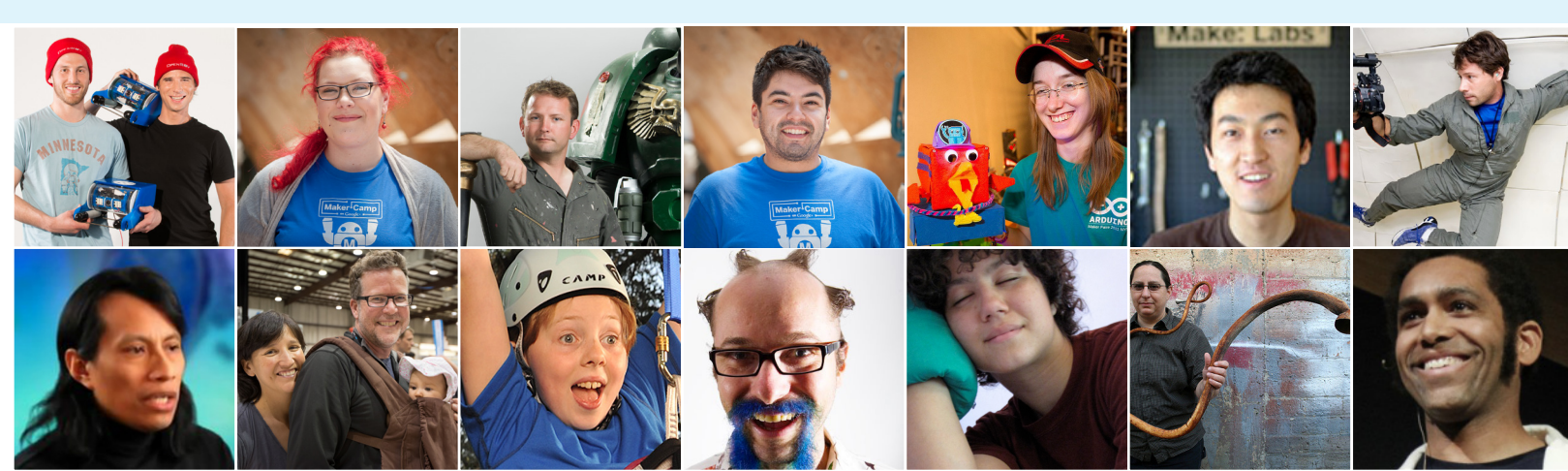
We'd like to hear how you have adapted these materials for your camp program. Let us know the age of your campers and how these materials worked or didn't work for your program, so that we can improve these materials for next year's Maker Camp.

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.

- Everyone is a maker.
- Our world is what we make it.
- We share what we make, and help each other make what we share. We're open, inclusive, encouraging & generous in spirit.
- We're more than consumers—we are productive; we are creative.
- We ask, "What can I do with what I know?"
- We seek out opportunities to learn to do new things, especially through hands-on, DIY (do-it-yourself) projects.
- Categories like math, art, & science dissolve while making. It's interdisciplinary.
- It's OK to fail, as long as you use it as a chance to learn and improve.
- We're not about winners & losers. We're about everyone making things better.
- We celebrate other makers — what they make, how they make it and the enthusiasm and passion that drives them.
- We surprise & delight those who see our projects, even if the projects can be a bit rough-edged, messy and, at times, over-stimulating. (Think punk rock.)
- We're not in it just for the money. It's not about filing patents or making a profit.
- At the same time, we're not anti-commercial: makers start businesses. We celebrate that, but we don't focus on it as that'd change the movement's spirit.
- If you can imagine it, you can make it.
- If you can't open it, you don't own it.



Your Typical Week (and Day) of Maker Camp

It's time to tinker! We have 30 days of 30 projects ahead for you. Each week is non-stop making action!

Monday • Tuesday • Wednesday • Thursday

Hangouts + Making + Sharing

Friday

Field Trip

Weekend

Project

Preparing for the Week

Before each week begins, get ready for camp — check out the weekly schedule and materials lists for the next project(s) posted on MAKE's Google+ page and makercamp.com. Read through the week's overview and check for updates to make sure that you have all the materials listed. Scavenge stuff from around your house or head to the store. The materials lists will be posted in advance so you will have time to gather the supplies you'll need.

Purchases from Maker Shed will arrive in a week or less by ground shipping, with very quick express options available.

Hourly, daily, or weekly, be sure to share photos and videos from your camp. When you share your photos and tips with other campers, don't forget to use the hashtag: #makercamp.

Monday to Thursday

Each morning Monday to Thursday at 11am*, a Guest Maker introduces campers to a new project or experience. Campers follow along from anywhere: in the comfort of their own homes, at Maker Camp Affiliates, or even under trees on their mobile phones.

They tune in live to our Hangouts on Air (HOAs) on the MAKE Google+ page, the Maker Camp Google+ Community page, or YouTube. Daily HOAs include an overview of the day, a Meet the Maker conversation, skill builders, step-by-step project instructions, special segments and announcements, and a daily project. After, campers can share their projects and making experiences with other campers on the Maker Camp Google+ Community Page.

***Note:** All times are in Pacific time.

Fridays

Field Trip Fridays are different. Scheduling for Fridays may vary depending on the location of the field trip. Check makercamp.com in advance for the schedule.

In 2012, field trips included NASA, Ford, National Geographic, Disney Imagineers, Smithsonian, and CERN.

Weekend Project

Camp continues Saturdays and Sundays with Weekend Projects. Senior camp director, Nick Raymond, will introduce the Weekend Project on Friday afternoons. He will do a brief review of the project build and the materials needed to successfully complete the project. If your facility is open over the weekend, you may want to extend your Maker Camp programming during this time.

8:00
AM

Rise & Shine!

Go to the MAKE Google+ page where you'll find instructions for the day's project. Grab your gear and start making! google.com/+MAKE

8–11
AM

Explore & Make

Build projects, check in on other campers' progress, take pics & videos to share! Maker Camp Director Em checks the hashtag #makercamp for camper feedback and comments and engages with them regularly.

11:00
AM

All-Camp Hangout On Air

Watch the Google+ Hangout with Em & Guest Makers. Review the day's project & chat with campers about tips & tricks, pitfalls, suggestions for hacks and improvements.

2:00
PM

Chilling in the Cabin

After camp is over for the day, hang out in the G+ Maker Camp Community. Share your comments, photos, and videos with your fellow campers and check out what they made!

4:00
PM

Around the Campfire

Go to makercamp.com to see the project for the next day, review the materials list, and get ready for another awesome day at camp! Share your ideas for cool hacks.



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 6.) Once on Google+, campers can interact with other campers and other friends, and follow along with Maker Camp's daily projects and weekly field trips. 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 G+ page, you can:

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

Mix us into your summer program

Integrate Maker Camp into your existing activities. Mix and match these ways and others for an awesome summer camp experience for your community!

- Have campers do the daily project at home, upload photos and video to the Maker Camp G+ Community page. Gather at your site to view the live Hangout-on-Air of the day, hosted by the Guest Maker and other campers.
- Host Field Trip Friday at your site so campers can view a live broadcast of an epic field trip at a cool destination.
- Watch the celebrity HOAs at your site. These feature a famous maker talking about why it's fun to build cool stuff, including the project of the day.
- Create a "makerspace" at your site. Have campers do the project together, upload photos and videos of their projects, then watch the live broadcast of the HOA together to see other campers' experiences making the project. See makerspace.com/playbook to download our 70-page Makerspace Playbook: School Edition to learn more about setting up a Makerspace.
- Create your own Maker Camp hosted at your site, using projects from Make: Projects online. Build a Google+ page for your Maker Campsite where campers post photos and videos of the projects they chose to build. Host a HOA where campers can talk about the projects.

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 G+ 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.

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.

Pack for six weeks of fun!

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

- An Internet connection to access MAKE's G+ page and makercamp.com and a computer, phone, or tablet
- A webcam and a good microphone would allow you to make a great appearance when you are invited to one of our HOAs
- HOAs are broadcast live and recorded. (You can also just view the live stream on your laptop which is a great experience, too)
- Your basic household tools like screwdrivers, pliers, hobby knife, scissors, and duct tape
- Tools like a drill, handsaw, and soldering iron (required by more advanced projects)

While many of the project materials are likely already available in your home and/or office, you may need to buy some items. Poke your head into Maker Camp's new trading post on Maker Shed (makershed.com/makercamp), where we make it easy to order supplies for your camp program, and we offer free shipping for all Maker Camp affiliates, just use promo code CAMPROCKS at checkout. We suggest campsites stock up on the items listed below.

Batteries
LEDs (buy a "grab bag")
Raspberry Pi (card only)
Getting Started with Raspberry Pi (book)
Lumi Inks (Blue, Red, Orange)
Ultimate Arduino Microcontroller kit
Getting Started with Arduino (book)
Squishy Circuits kit
Getting Started with Soldering kit
Learn to Solder Pins (pack of 25)
Rocket glider kit
Spinbot kit
Electroluminescent "EL" Wire
Makey Makey
Silicone putty



Things to do before camp

- ☐ Create your own Google+ page.
- ☐ Introduce your campers to maker culture, and to the idea that they are all already makers!
- ☐ Request your promotional pack.
- ☐ Use your promo pack to reach out to other teens in your community.
- ☐ Collect items for reuse by your creative campers.
- ☐ Make with your campers.
- ☐ Gear up to document camp with photos, videos, notebooks, binders.
- ☐ Make sure you get our Maker Camp newsletter.
- ☐ 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.

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.

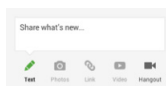
6. Welcome people to your page with your first post.

7. Add +MAKE to your Circles. [Follow](#)

(<https://plus.google.com/+MAKE>)

8. Add +Maker Camp Community to your Circles. (<https://plus.google.com/communities/107377046073638428310>)

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+. (remove space before +)

“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.

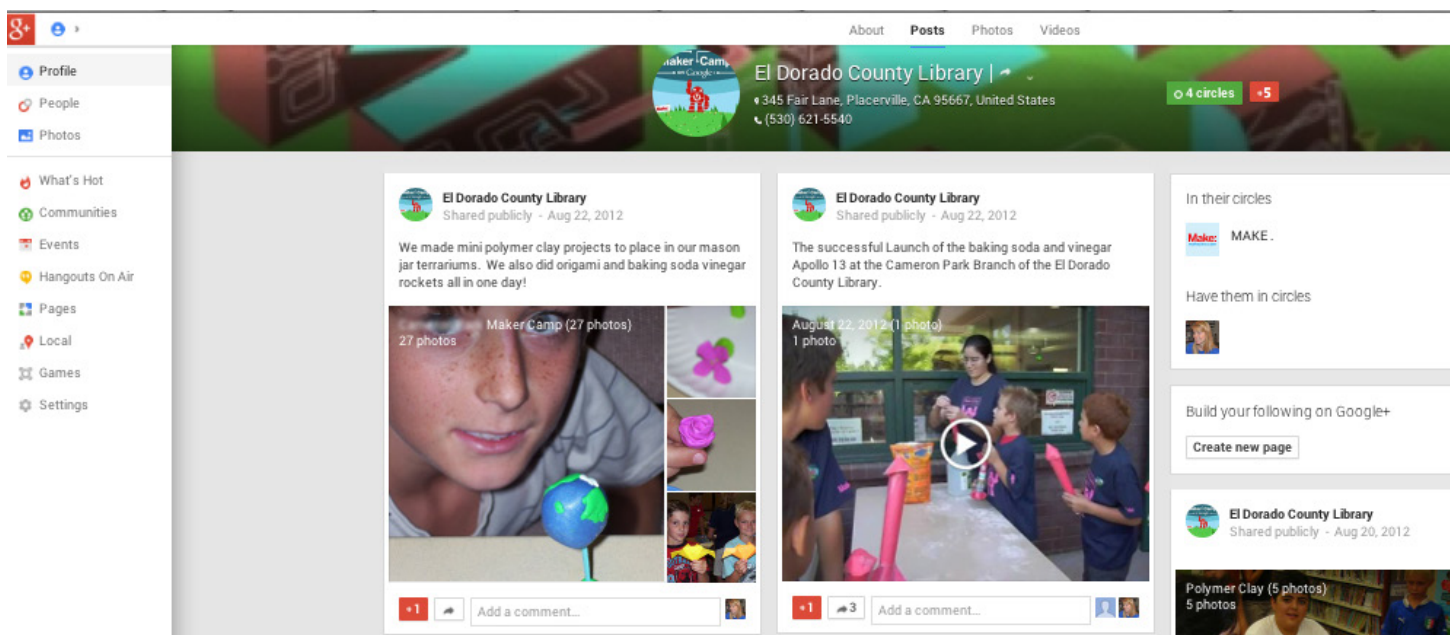
Please visit our help center if you have any questions. support.google.com/plus/

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.



Participating in a Hangout On Air

A Hangout On Air (HOA) gives you and campers a unique opportunity to engage with Makers, go on epic field trips, and get to know each other better. While as many as nine people can participate interactively, we also broadcast Maker Camp's HOAs to an unlimited number of viewers live on our site and instantly upload an archive of the conversation to Maker Camp's YouTube channel afterward.

You or your campers may be invited to participate in a HOA over the course of Maker Camp. Here's a checklist to make your appearance on our video the best it can be!

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

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 15 minutes prior to broadcast 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.

Check your bandwidth. Use SpeedTest.net to verify your pipe's big enough. Ideally 3–4MB/up/down (even though you can get away with as low as 1.5MB, it's just not ideal) 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 Screenshot. 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.

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.

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 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).

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 to go to System Preferences / Sound Panel and un-check the box next to "Use ambient noise reduction," under the Input Level.)

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.

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 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.

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

Close all your other windows (except those you need for Screenshot). 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.)

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

Chat live while we're live. Communicate with Em 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.

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.

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!

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

30 Days. 30 Projects.

Our lineup features a Google+ Hangout on Air every morning at 11am (PT), where campers will get to make projects, meet makers, and go on virtual field trips. We have six weeks of adventures in making. In the next few pages we highlight some of the featured projects and skill-builders to help you prepare for Maker Camp. These tap into the list of suggested supplies we recommended on the previous page, and when you stock up at Maker Shed you get free shipping!

Makers in Motion

Week 1 / July 8–12

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. Taking 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 at the world-famous San Francisco Exploratorium.



Create the Future

Week 2 / July 15–19

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.



Fun & Games

Week 3 / July 22–26

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 homemade 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.



Art & Design

Week 4 / July 29–August 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.



DIY Music

Week 5 / August 5–9

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!



Make: Believe

Week 6 / August 12–16

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 make-up, and exploring the "make" in make believe.



Bike Tail Pipe

makezine.com/2010/12/08/make-a-soda-bottle-bike-exhaust/

Make your bike go VROOM! Let drivers and wandering pedestrians know that you're comin' through on your ride. In this project by John Edgar Park, a MAKE blogger and CG Supervisor at DisneyToon Studios, campers use a rotary tool to open up a 16oz. beverage bottle into a loud exhaust pipe, amping their pedal-powered trips into the loud purr of a junior Harley-Davidson.

How long you'll need: 1-2 hours

Where to do it: A well ventilated workspace or outdoors

How to group campers: Create one group for each bike your campers bring. Most of the time is spent with the rotary tool, so you'll be limited by how many of those you have.

What to know: Safety is critical in this project. Don your safety goggles and dust filters to make sure the particles don't land in your eyes, nose, or lungs. You can find a bunch of these aluminum bottles in your local recycling center or the recycling bins near places that sell (or indulge in) energy drinks. The parts we specify are for a Dremel set, but any rotary tool with similar attachments should do.

How it works: You are building a resonator for the classic card-in-the-spokes trick, using a hard plastic gift card for even harder plucks than a playing card. Most musical instruments use resonators to make the sound louder. Think of the body of a violin or guitar, for example. Without a resonance chamber, the sound of the vibrating string would be too faint to hear.

Things to try: We've seen iPod docks made of bamboo. See what happens with other kinds of resonance chambers. Compare how loud your audio exhaust gets from the uniquely different sizes that your campers cut.

Get inspired: The video on the project page will give your campers a good sense of what's in store! If there's time and interest remaining, encourage campers to keep going and turn their bikes into an art bike with some more bike mods.

Show them off: Put on your helmets, hop on, and make a racket on your block with your flock of unmuffled bikes! Turn some heads? Catch it on video and post to Google+.

Skill Builder: Getting Started with Raspberry Pi

<http://makezine.com/category/electronics/raspberry-pi/>

For those of you who haven't yet played around with Raspberry Pi, this one's for you. In this how-to video, expert Matt Richardson shows you step by step how to connect your Raspberry Pi and get it up and running. This is the first step towards using the Raspberry Pi, and after following the video you will be able to boot up your Raspberry Pi and start using it as a Linux based mini computer. Once complete, you can follow along with the book, *Getting Started with Raspberry Pi* for more tutorials and ideas.

How long you'll need: 1 hour or less

Where to do it: Near a power outlet and where you'll have access to ethernet

How to group campers: Individually or in pairs

What to know: The Raspberry Pi doesn't work right out of the box, so we will show campers how to hook up their Pi and download the free software to get the Pi up and running. Once completed, you will be able to start experimenting with the Pi by following the projects posted in the book, *Getting Started with Raspberry Pi*.

How it works: The Raspberry Pi is a powerful mini-computer. By hooking up this microcontroller to a monitor, keyboard, mouse, ethernet cable, and power supply, we can build our own computer. The Pi has a built in CPU (central processing unit) to perform computations and calculations and a built in GPU (graphical processing unit) so we can display data and images with the use of an external screen and runs a linux based operating system (OS).

Things to try: *Getting Started with Raspberry Pi* book

Get inspired: Check out the Raspberry Pi Radio Time Machine Project <http://makezine.com/projects/raspberry-pi-radio-time-machine/>

Show them off: After following these instructions, you will have a mini Raspberry Pi computer up and running and ready for experimenting. Follow along the links provided below to learn how you can now program the Raspberry Pi and make your own Media Center and Raspberry Pi Radio Time Machine and be sure to post your videos and images on Google+ and share your projects online.

EL Wire Hoodie

makezine.com/projects/light-up-hoodie

Use electroluminescent (EL) wire to wow your friends with your stunning sweatshirt during a night out.

How long you'll need: 30 minutes

Where to do it: Anywhere.

How to group campers: If you have enough hoodies and EL wire to go around, every camper can make his or her own!

What to know: EL wire is simple, efficient, thin, flexible, versatile, cool to the touch, and very visible in the dark. It comes in many colors, thicknesses and lengths. It emits a 360° unbroken line of light. Neon and fluorescent lights have no filaments that can break, but not EL wire: it will always light up for you!

Be careful: If it gets wet, EL wire might break, so it is protected by two tubes of PVC.

How it works: A thin copper wire is coated in a phosphor (a material that glows when alternating current runs through it.) Believe it or not, EL wire was invented nearly eight decades ago, in 1936 by Georges Destriau of France. It breaks less and costs almost 500 times less to make EL wire glow than neon or rope lights!

Things to try: Apply your EL wire to other uses. Makers use EL wire in clothing, costumes, art bikes, and animated glowing pictures. Manufacturers use EL wire to enhance sunglasses, jewelry, coats, pet collars, safety lighting, and nightclub decor. It's been used to make stairs, walkways, and bike helmets safer and to make accident scenes brighter. With a sequencer, you can pulse light or animate layers of EL wire.

Get inspired: The author of the project was originally inspired by the movie *Tron: Legacy*. You can see lots of amazing art made with EL wire in the "Dark Room" of Maker Faire or after the sun sets at Burning Man.

Show them off: Turn off the lights or wait till after dark and have a hoodie dance party. Capture it on video, taking advantage of the light limitations of most cameras to have eerie disembodied heads!

Squishy Circuits

makezine.com/projects/squishy-circuits

Squish up some doughy creatures with light-up eyes and wagging tails by making the circuitry out of the dough itself!

How long you'll need: 1 hour

Where to do it: A place that can get a little messy!

How to group campers: This exploration can accommodate everyone around one or two tables at once.

What to know: Most play dough is already conductive. Squishy circuits introduce a second, insulating, sugar-based dough that's pliable and resists blending with the conductive dough. Stored properly in an airtight container or plastic bag, it should keep for several weeks. If it dries out or has some condensation, just knead it, add a little more deionized water and flour if necessary. Find distilled or deionized water for the recipe in lab supply stores. Color the conductive dough to help campers tell the doughs apart. Don't be fooled by the playful medium: this activity works as well with undergrads as it does with toddlers.

Be careful: Your dough will be very hot at first! Let it cool flattened for a couple of minutes before handling. Always attach LEDs or other components to the dough. Running too much current through them (directly from the power source) can damage, overheat, or pop them. Salt rusts components over time. Wipe the components after use with a damp towel to make them last.

How it works: The two doughs conduct electricity differently. Salt is a good conductor: it breaks into sodium (Na⁺) and chlorine (Cl⁻) ions. Sugar is an insulator, on the other hand, as it does not let electricity flow. Because of this, sugary dough acts as a "wall" to the electricity. Insulating dough keeps parts of your circuit separate when you don't want them to touch.

Things to try: Attach your leads to your battery pack's wires for best results. Play with the salt content of the recipes to vary their conductivity. For ideas for series and parallel circuits or adding a motor, a buzzer, sounds, or an RGB LED, or making a squishy battery, see courseweb.stthomas.edu/apthomas/SquishyCircuits/buildingCircuits.htm.

Show them off: Keep some of the best examples on hand and make a squishy circuit workshop part of your end-of-week or end-of-camp celebration for parents and others.



Lego USB Flash Drive

makezine.com/projects/lego-usb-flah-drive/

Legos are not just for building geometric towns and small scale vehicles anymore. Find a new use for your Lego blocks by building a Lego USB flash drive. Simply take the electronics from your flash drive and use your favorite lego blocks to make a unique case that snaps together.

How long you'll need: 1-3 hours

Where to do it: In an area with access to dremel tool and a vacuum for clean up (or, simply use a small file, sandpaper, and pair of pliers)

How to group campers: Individually

What to know: Use of dremel tool is suggested for removing plastic material from backside of Lego blocks. This is needed to ensure a nice tight fit. This project requires some patience and dexterity, so have some backup blocks available so campers can try a few times. You will want the USB to fit snugly inside the blocks.

How it works: Take apart a USB stick and hide the parts within the lego blocks. None of the electronics of the USB are modified, the lego blocks are simply used to hide the majority of the USB stick and act as a DIY enclosure. Lego blocks are glued together to form the body, and the dremel is used to hollow out specific parts of the lego blocks so that USB portion can stick out and plug into the computer.

Things to try: Make a larger more complex Lego shape, then find a way to hide the USB flash drive somewhere on the lego parts. Also consider using alternative materials or lego pieces in design.

Get inspired: Check out the Makezine blog's Top 10 useful Lego Projects <http://makezine.com/2010/11/14/top-10-useful-lego-projects/>

Show them off: End of camp/week/day exhibition or application of the project



Toy Car Launcher

makezine.com/projects/toy-car-launcher/

Build a mini, rubber band-powered toy car launcher out of scraps. Use it to propel your Hot Wheels cars or other toys.

How long you'll need: 1 hour

Where to do it: Anywhere

How to group campers: Individually or in pairs

What to know: In this launcher, rubber bands are a way to store energy. When you release the rubber band, potential energy is converted to kinetic energy, translating into movement of the toy car. The more effectively the project is made and the more energy campers can get into and release from their rubber band without loss, the farther the car will go. While this project was designed with a Matchbox-style car in mind, you can use any wheeled (perhaps even any spherical!) toy that fits the launcher's exit.

Be careful: Leave it on the ground! No pointing it at people!

How it works: A candle rubbed along the sides of the middle block will make things run smoothly.

Things to try: This can either be a stand-alone launcher, or can be modified to attach to a standard Hot Wheels track. If you like, you can add more screws, to give different levels of tension or to accommodate different-sized bands or to make it easier to operate. We also trimmed the corners off the back. These steps are optional. Decorate with stickers, paint, whatever you like!

Get inspired: See a whole city of zooming speedways with a different kind of potential energy (one provided by a conveyer belt elevator!) in Chris Burden's Metropolis II (www.lacma.org/art/exhibition/metropolis-ii).

Show them off: Take your launchers to the races! Who can get their cars to run the fastest or farthest?



Screen Printing

<http://makezine.com/projects/silk-screening-101/>

Print your own design on anything you hang, wear, or tote

How long you'll need: 3–4 hours, including 30–60 minutes drying time; you may prefer to make the stencil one day and print the images the next day.

Where to do it: Spread emulsion out of direct sun over a sink; dry in a pitch-black room; print outside for ventilation.

How to group campers: Individually (one silkscreen per camper) or as a group (a camp identity)

What to know: Opt for bold, high-contrast designs, using halftones for grays. A higher silkscreen mesh count allows for finer detail. Dry the emulsion completely before exposure. To wash the unused emulsion out effectively use a high pressure nozzle and gentle rubbing (without nails!)

Be careful: Big solid areas gobble up ink, make coverage tricky, and crack with wear. Test prints on scraps before the final print. Throughout, work quickly and evenly to avoid ruining a screen. Emulsion globs cause uneven exposing and take longer to harden. Dry ink clogs the mesh.

How it works: Silkscreens are stencils that distribute ink evenly. They let you duplicate sharp, vivid designs on any flat fabric or paper. Emulsion, spread over a porous screen, hardens when exposed to light. After washing unexposed emulsion away, a durable stencil remains. It can print up to about 200 impressions. To make a T-shirt print permanent, add fixer to ink, or iron under wax paper after printing.

Things to try: Use 2–3 colors to swirl unique, inky patterns on each pass. Or layer designs of 2+ colors for greatest challenge! Print “positives” straight onto a transparency from the computer. Avoid emulsion altogether: place a hand-cut stencil between the screen and print surface. A first swipe over the screen sticks the paper to the screen, with ink acting like glue. Make cheap silkscreens with embroidery hoops and bits of silky or sheer material, like tights.

Get inspired: Browse threadless.com or your favorite fashion source for ideas of images you like to wear.

Show them off: Hang, wear, or tote your designs all over town. Have a fashion show. Sell T-shirts to raise funds.



Giant Spin Art

<http://makezine.com/projects/giant-spin-art/>

Spin canvases at high speed and drop paint on them, making beautiful, colorful patterns. We scale the classic fair activity up--way up.

How long you'll need: 2 hours to build apparatus; mere minutes to create art!

Where to do it: Outside in an easy-to-clean area.

How to group campers: Individually (or 1–4 campers per canvas)

What to know: Campers can paint with drip bottles or a brush that stays in the same place or moves in towards the center and out again as it adds paint to the canvas. Any canvas spins pretty smoothly as long as it's centered on the adapter. Large canvases may cause the drill's motor to burn out. A cardboard corral will help contain the paint splatters.

Be careful: Knees can get bonked, and kids can fall onto it. Stake your device to the ground, and stop it immediately if it ever tips over. The paints are liquid, so keep the electricity away from them. A ground-fault circuit interrupter outlet (often labeled GFI or GFCI) is safest.

How it works: As the canvas spins, centrifugal force moves the wet paint towards the edge of the canvas, with gorgeous results. Just about every canvas comes out great.

Things to try: Campers can create different effects, layering the paints on top of each other, or blending them as they spin. To see their art in process, campers can stop the spinning platform. Does spin art work on a vertical surface?

Get inspired: Contemporary artists such as Alfons Schilling, Annick Gendron, and Damien Hirst.

Show them off: Shoot video of the creation of the spin art. Hang the finished, dried paintings on the walls of your campsite.



MaKey MaKey Banana Piano

<http://makezine.com/projects/the-banana-interface/>

Tap on your favorite summer fruit to “jam” as a jolly band.

How long you'll need: 1–2 hours

Where to do it: Outside, if possible!

How to group campers: In pairs, in groups, or all together

What to know: The MaKey MaKey invention kit lets you make your own controls for just about any software. Press up to 6 of 18 available keys at once. Six plug into the front; 12 sockets on the back accept wires, paper clips, or pins. MIT Media Lab's Lifelong Kindergarten group created MaKey MaKey as well as Scratch, a free and easy-to-use, graphical programming language. Scratch users drag, drop, and snap together colored blocks on-screen to create stories and games with animation and sound effects.

Be careful: Circuits can break. For example, graphite circuits, when folded, sometimes lose the connection.

How it works: MaKey MaKey's a USB input device that can control any software that uses the keyboard or mouse. Alligator clips from the MaKey MaKey board attach to conductive materials. The board plugs into the computer, which thinks MaKey MaKey is any ol' USB keyboard. Complete your circuit, and the computer thinks a key has been pressed and does something on screen.

Things to try: Make other controllers with other conductive materials: fruits, vegetables, squishy sweets, mac & cheese, leaves, flowers, play dough, moist clays, people kissing, holding hands, or giving high-fives and hugs, pencil “lead” (graphite) thickly drawn, foil, coins, magnets, nuts & bolts, utensils, pots & pans, other metal objects. Play with other sounds, too. As for software, campers can control any one of millions of software apps out there or use Scratch to make their own. Interact with Powerpoint, Photobooth, music or video players (including YouTube.), or set up a kitty cam to snap a picture every time Fluffy takes a drink.

Get inspired: Fun projects abound at makeymakey.com

Show them off: Advance slides in the end-of-camp show with a bite of pastry instead of a space bar. Come up with a new creative activity? Enter it in MaKey MaKey's contest by Aug. 13. Multiple activities from single entrants welcome!



Diddley Bow Guitar

makezine.com/projects/make-22/the-diddley-bow/

Build this slide guitar with just a board, a wire, and a jar.

How long you'll need: 10–30 minutes

Where to do it: Anywhere

How to group campers: Individually or in pairs

What to know: A primitive one-string guitar heard mostly in the rural South, the diddley bow is an informal practice instrument built from found or recycled materials. The string used shouldn't stretch much. Find wire in hobby shops selling model trains and planes, or use a very long guitar string. Note: galvanized fence wire stretches too much with more play, causing the pitch to drop.

Be careful: When you bring a wire of unknown tensile strength to unknown tension, both the board and the glass jar bridge are under compression. Use face and hand protection when tensioning up the diddley bow and good sense when building, tuning, and playing. Use a small, cylindrical jar or bottle made of thick glass with untapered sides (from jelly, instant yeast, or hot sauce— but not a baby food jar; it's too fragile.) Wrap the bridge end of the diddley bow in a towel when tensioning up the wire in case your glass shatters. A large pipe coupling or an Altoids tin also works.

How it works: A slide guitar stripped down to its most elemental level, this is played slide-style, resting on the knees. Players strike the string rhythmically with a finger or a stick and alter the pitch with a glass or metal slide. You'll mark a pentatonic scale over two octaves common to blues and rock. Follow the detailed steps to mark the frets, or use our online fret calculator (see makezine.com/21/cbg).

Things to try: Setting the fret marks requires a lot of close listening. Use both hands to develop rhythmic drive—your left hand can stop the string's vibration while your right hand beats a rhythm with a stick. With practice, you'll be able to play almost any kind of music on your diddley bow.

Get inspired: A concert video, a discography, and a bibliography can be found on onestringwillie.com.

Show them off: Find a note at a time, then a phrase at a time, and put together a song. Or use a song you know, find the notes for it on your bow, perform, record, and upload to G+.

Cyborg Makeup Effects

<http://makezine.com/2013/03/22/make-your-own-monster-skin/>

This project teaches you how to transform yourself into a cyborg using special effects makeup. Customize this yourself and create something awesome!

How long you'll need: 1-2 hours

Where to do it: Anywhere.

How to group campers: Individually or in pairs. If individually, mirrors are needed.

What to know: While CGI is becoming all the rage in movies today, special effects makeup is still an important art form. These techniques will allow you to be creative and become anything you want to be. Everything you need can be found at your local Halloween/costume shop.

Be careful: For our younger campers, it may be best to skip the step using rigid collodion. This liquid creates amazing scars, but when removed it takes off the top layer of dead skin. Do not use this multiple days in a row otherwise it will start to damage your skin. Rigid Collodion used in this application, however, is completely harmless. Also, if you have sensitive skin, do a small patch test with the makeup before you do a full application. This will predict if you will react before you attempt it on your face.

How it works: Using costume makeup we can create the illusion of having an implant in your face.

Things to try: Try using these techniques for other applications and send us pictures of what you create. We'd love to see!

Get inspired: Check out the previous Make: Believe videos and watch videos on YouTube for more amazing ideas and techniques.

Show them off: Put your own interesting spin on this idea and post pictures on the Maker Camp G+ page. Can't wait to see what you come up with!

Peanut Butter Jar Vacuum Former

<http://makezine.com/2010/07/08/toolbox-diy-vacuum-former/>

Vacuum forming is a popular manufacturing process used to create plastic parts or molds from 3D objects. By heating up thin sheets of plastic and using the suction power of a household vacuum cleaner, we can make plastic replicas of small objects for use in other projects or even mass produce a bunch of the same parts and share with friends. This project will show you how to build a small vacuum former device from a plastic peanut butter jar, and provides instructions and tips for making your own plastic objects.

How long you'll need: 1-2 hours

Where to do it: Inside, with access to a heat gun or kitchen oven

How to group campers: Can be performed individually, or in groups of 2-3

What to know: Requires the use of a drill or dremel tool to cut 30-50 holes in the lid of the jar. Ideally, the holes should be uniformly spaced, and be 1/8" in diameter. These holes are used to transfer the suction force created from the household vacuum that pulls the warm sheet of plastic tightly against the part. Once the plastic has cooled and solidified, the vacuum can be turned off and the piece of plastic can be lifted off of the vacuum former. Additionally, certain guidelines should be followed when determining what types of objects should be replicated with the vacuum former and these tips are highlighted at the end of the project. You really do need a shop vac or other vacuum with serious suction! For plastic, polystyrene works well, but any thermoplastic material will work (thermoplastics get soft when they are heated) and ideally the sheets should be 0.030" thick. Art stores or local TAP plastic stores will have this in stock.

Peanut Butter Jar Vacuum Former Continued

Print your Head in 3D

How it works: By putting small holes in the cap of the peanut butter jar and attaching the vacuum to the side of the jar, the suction force from the vacuum is distributed over the larger surface area of the cap. The size of the cap determines how large of a part can be replicated. By heating the thermoplastic in the oven or with a heat gun, the material softens. Once soft, quickly place the warm plastic sheet over a 3D object and turn on the vacuum. This causes the plastic sheet to be sucked against the part, and the plastic forms to the exterior surface. The stronger the suction, the better the results. Once the plastic cools, it hardens again and the vacuum can be turned off and the excess plastic can be trimmed. This process is made possible due to the material properties of the thermoplastic, which are a specific type of polymer that is able to be molded and remolded above a specific temperature and then return to a solid state once cool.

Things to try: For small vacuum formers, try replicating action figures or small toys. If you build a larger vacuum former, try making masks or costume pieces (Iron Man suit or knight armor with chest plates and armbands).

Get inspired: Use foam or clay to make your own shapes and parts, then use the vacuum form to make multiple replicas of the same part. These can be used for board games, or even parts to make your own robots!

Show them off: end of camp/week/day exhibition or application of the project

makezine.com/projects/print-your-head-in-3d

Get your hands on the tools of the future by modeling and then reproducing your own head in a self-portrait sculpture.

How long you'll need: 1 hour

How to group campers: In pairs

Where to do it: Shoot photos in full, consistent shade with a simple background. Build your model online at 123dapp.com. No 3D printer? Find one in the directories at makerspace.com and hackerspace.org. No 3DP close by? Lots of service companies print out 3D models! Autodesk will send you a 3" head for about \$10. Or use Shapeways or Ponoko. (In Europe, Sculpteo or i.materialise.) Some services even print your head out in ceramic.

What to know: The better the camera the better the capture software works, but both cellphones & nice DSLRs work. Fill the frame with your whole head. We chose Autodesk 123D software for this project because it's free and largely web-based. Get up to speed with its tutorial videos: youtube.com/123d and 123dapp.com/catch/learn

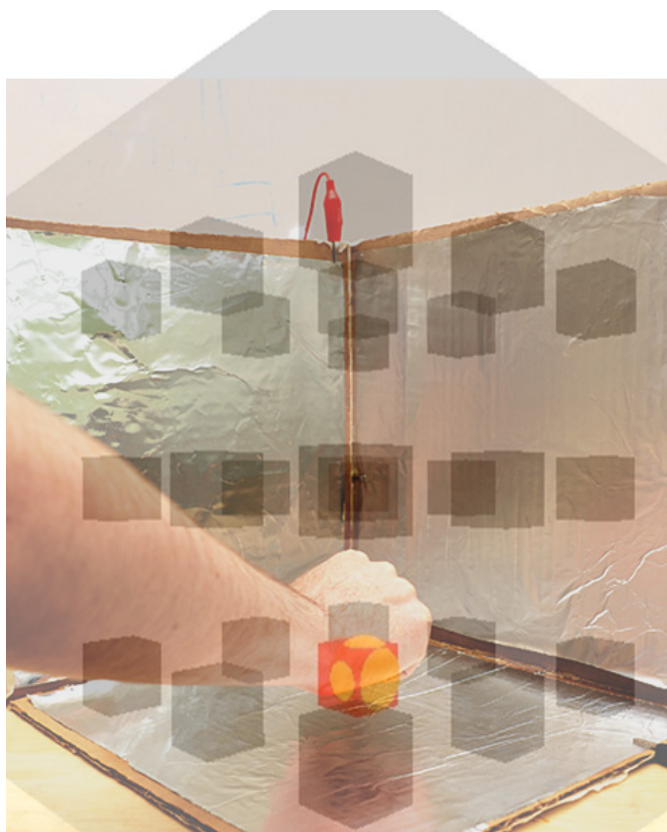
Be careful: Blurry images confuse the software, so keep the camera still & focused. Making faces? Take pictures fast so you can hold your expression. It's easy to remove unwanted features. But be careful! You can't undo deletions.

How it works: The model you build outputs a file in the 3D printer's software, which tells the printer exactly where to make trails with the hot plastic to build up your object. Think of a 3D printer like a tiny hot glue gun. The name of one type of file, STL for "stereolithography" indicates how much like 3DP resembles the printing of da Vinci's time!

Things to try: Add a fancy pedestal for a nicer, more permanent object. Be whimsical! Put an arrow through your 3D skull, add tentacles. Make yourself two-headed. Put it on a candy dispenser! Why stop at a head? Make full-body action figures, dressed as an elf or vampire. Model your pet, the car — you can model anything you can capture!

Get inspired: Explore Thingiverse.com to see what others made.

Show them off: Click on Publish to Gallery so anyone can mess with your head! Shoot stop-motion animation with your busts. Make 123D video and send straight to YouTube!



A Touchless 3D Tracking Interface

radioshack.com/projects-gallery/touchless-3d-interface

Create a 3D computer interface using little more than an Arduino, six resistors, and some aluminum foil!

In this project, we'll take a very simple idea — the length of time it takes a capacitor to charge — and make something rather amazing with it: a 3D interface that can track the position of your hand.

Parts:

- Pieces of cardboard (3)
- 10K Ω resistors (3) from RadioShack
- 220K Ω resistors (3) from RadioShack
- Alligator clips (3) from RadioShack
- Arduino from RadioShack
- Shielded cable, cut off the ends, cut into (3) 2' lengths from RadioShack
- Aluminum foil
- Masking tape
- Computer with Processing and Arduino software installed

Tools:

- Soldering iron
- Spray mount or a glue stick
- Wire cutter/stripper

Week 1 — **Pedal-powered phone charger**

Week 2 — **Touchless 3D tracking interface**

Week 3 — **Repeat after Me: a mintronics memory game**

Week 4 — **Extreme LED throwies**

Week 5 — **LED Color Organ**

Week 6 — **MonoBox powered speaker**

See the entire Weekend Projects series online at makezine.com/weekendprojects

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 G+ Community page to create a Camper Wall of Fame!

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

- Mail call: makers who join us live would enjoy hearing from you if your campers are moved to write. Letters bring warm feelings to the entire Maker community.
- Campfire and Mess Hall songs. Blast favorite maker-themed singalongs while campers work on their projects.



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-2013") 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 G+ page, or on the Maker Camp G+ 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 those in our Suggested Questions for Young Makers

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.

Contact us:

superaffiliate@makermedia.com

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 G+ 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 makercamp@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 them 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 2014.

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!

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 30 projects featured in 2012. 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 \(youngmakers.org/playbook\)](http://youngmakers.org/playbook) and [Makerspace Playbook: School Edition \(makerspace.com/playbook\)](http://makerspace.com/playbook).

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 superaffiliate@makermedia.com.

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

Summer 2013

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.

MakerMedia is a global platform for connecting makers with each other, with products and services, and with our partners. The launch of MAKE Magazine in 2005, followed by Maker Faire in 2006, jumpstarted a worldwide maker movement, which is transforming innovation, culture, and education. Located in Sebastopol, CA, 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.

MAKE Magazine is the first magazine devoted entirely to Do-It-Yourself (DIY) technology projects. MAKE unites, inspires, informs, and entertains a growing community of resourceful people who undertake amazing projects in their backyards, basements, and garages. Published quarterly, MAKE celebrates your right to tweak, hack, and bend any technology to your will.



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, micro-controllers, 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.



Maker Faire (makerfaire.com) is 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, CA, and in 2013 celebrated its eight annual Bay Area event with some 120,000 people in attendance. World Maker Faire New York was founded in 2010, and in 2012 attracted 55,000 visitors. "Featured" Maker Faire events take place in Detroit, Kansas City, Tokyo, and the UK; smaller-scale Mini Maker Faires are happening around the globe.

Mini Maker Faires

(makerfaire.com/mini), are run by community based organizations, schools, and institutions to produce local, smaller-scale, independent events. In 2012 there were close to 60 Mini Maker Faires around the world. Check makerfaire.com/mini for more information and the application.



Online

Check out our popular blog at 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.

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!

Maker Camp is a virtual DIY camp for teens, using the Google+ social media platform. For six weeks, we 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 for 30 days of projects—then shared their experiences with other campers on Google +.

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

Maker Camp Videos in 30 seconds: youtu.be/FOqDsxtt8dY
and in 15 seconds: youtu.be/Hmc-5q0MZVGQ

Facts about Maker Camp

- Free for everyone on Google+.
- Runs from July 8th- August 16th.
- For projects, we will post materials lists in advance so you have time to gather the supplies you'll need for the next day's project.
- Field Trips last year included NASA, National Geographic, Disney Imagineers, Smithsonian, Ford, CERN.

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.

1	July 8–12	Makers in Motion
2	July 15–19	Create the Future
3	July 22–26	Fun and Games
4	July 29–Aug. 2	Art and Design
5	August 5–9	DIY Music
6	August 12–16	Make: Believe

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 trips to amazing places. Campers come and go as their interests dictate.

Affiliates

New for 2013, campers can join their peers and participate in Maker Camp at a physical location or affiliate 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 special event, and materials lists 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:

- 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 (no fee to attend)
- Post videos, photos, comments of projects, experience

In addition, we ask Super Affiliates to:

- Actively participate over the 6 weeks (minimum 6-10 hours per week)
- Participate in a post Maker Camp "HOA" focus group
- Be available/willing to speak with press/media

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."

