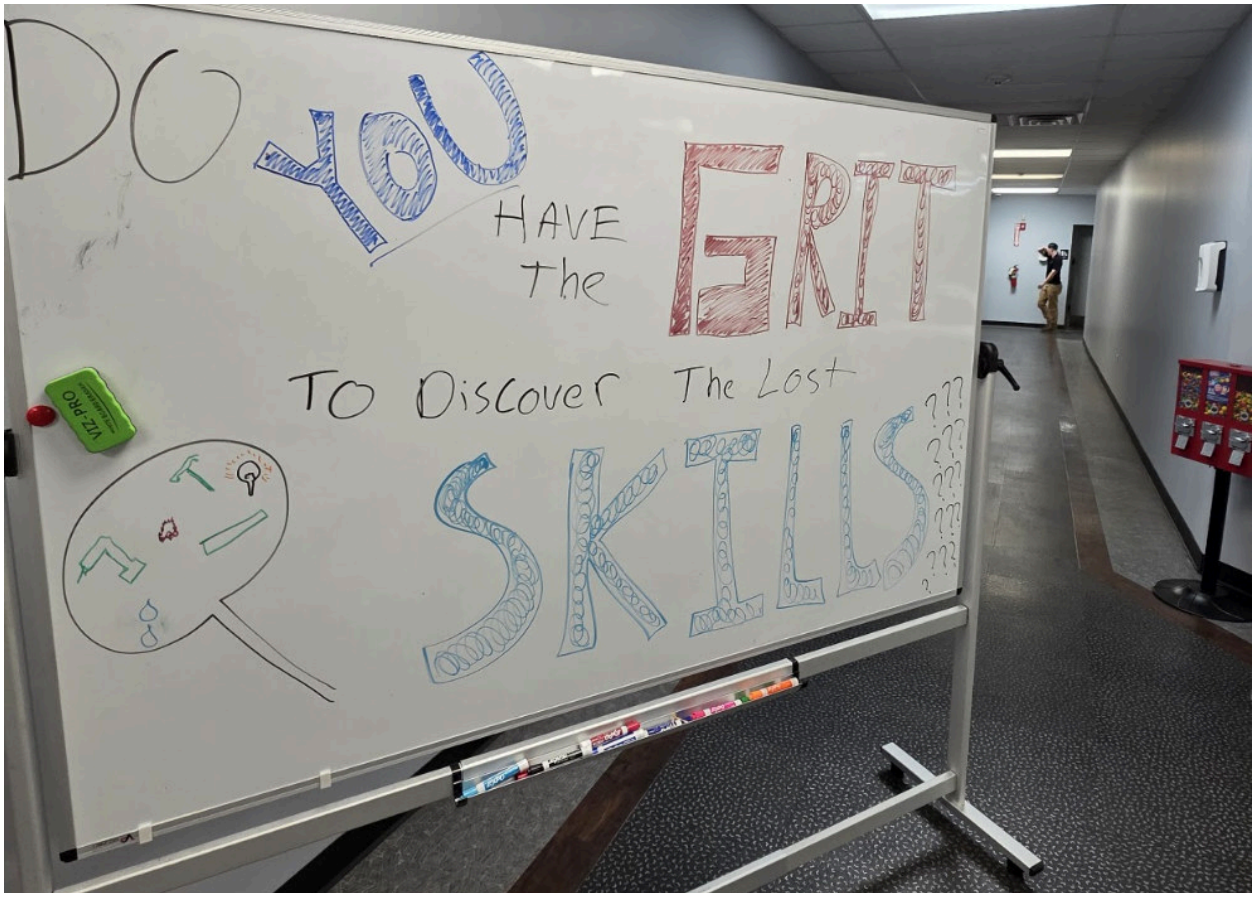
The GRIT Foundation

Host & Host Facilitator Quick Start Guide



Last Revised: September 17th, 2026

GRIT Camp Role Recap

Host: *The individual or company organizing and supporting the GRIT Camp.*

Host Facilitator: *Owns camp-day preparation and operations.*

Education Lead: *A trained tradesperson who is the instructional leader for the GRIT Camp.*

Mentor: *A trained tradesperson directly coaching 1–2 Students throughout the camp.*

Volunteer: *An individual helping with event-day logistics and general assistance, not education.*

A GRIT Camp Host has three goals:

- Introduce kids to possible careers as tradespeople
- Build an appreciation for the trades, even if they don't choose a skilled trades career
- Reinspire tradespeople and remind them of the importance of their craft and skills

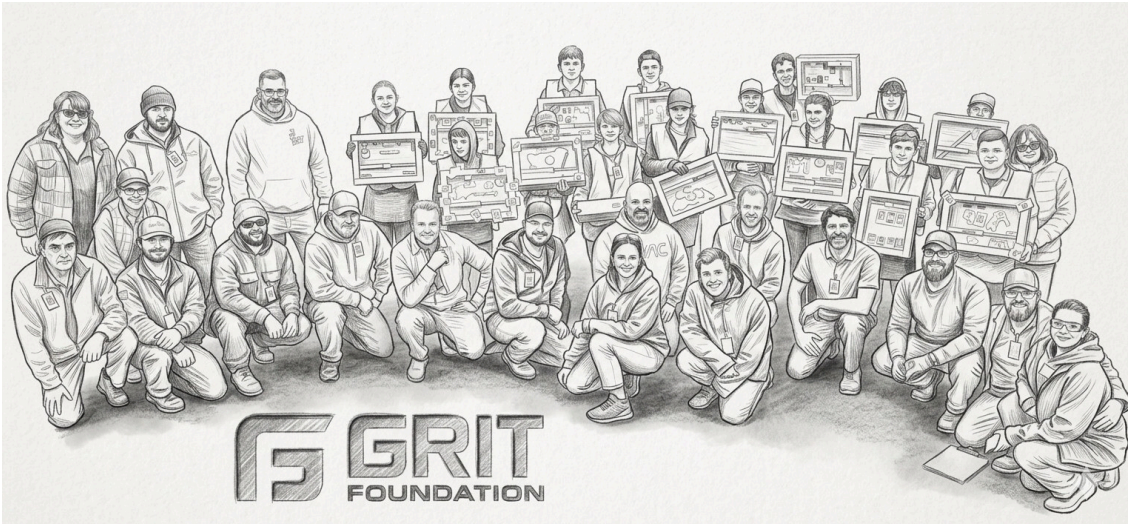
GRIT Camp offers a hands-on experience and direct mentorship. Those are the things that will make an impact on your community and the future of the trades.

This guide covers Host preparation and Host Facilitator operations. Plan 10–16 weeks ahead; the camp date may be confirmed before Mentor training is complete. Mentors must complete the approximately 3-hour course, targeting 6 weeks before camp and no later than 3 weeks before camp. The Host and Host Facilitator are encouraged to take it. If required training is incomplete at the deadline, postpone and notify Students and parents. Begin Student recruitment 6–8 weeks before camp and close registration 2 weeks before camp. GRIT ships Student items and participant badges 1–2 weeks before camp and sends reminders 2 weeks and 5–7 days before camp.

Getting started: submit the Host interest form, have a short introductory conversation with GRIT (usually 30 minutes or less), and confirm feasibility with your team. Then arrange an approximately one-hour Camp Ready walkthrough with GRIT to work through people, supplies, and timing. The Host and GRIT confirm the date together. Use Camp Ready for the current plan and printable supplies and timeline views.

The Host Facilitator and Education Lead may adjust pacing, activity order, layout, and selected activities to suit the people and conditions on the day. Accommodate preferences wherever practical; when they conflict, the on-site leader responsible for that area makes the decision and tells the people affected. Keep safe tool use and direct supervision in place. These guides provide practical defaults, not a script for every situation.

The Host selects optional modules and lunch demonstrations in advance with the Education Lead. Their materials and staffing are required only when selected. On-site leaders may adapt that selection when time, materials, and competent supervision permit.



Camp Day Checklist

Roles

- ☐ Host: _____
- ☐ Host Facilitator: _____
- ☐ GRIT Administrative Staff: Leilani Orr and Abby Thompson
- ☐ Education Lead: _____
- ☐ Attendee behavior support adult: _____
- ☐ Before camp, the Host Facilitator names an adult experienced with children who can give clear directions and set firm, respectful boundaries. This may be the Host Facilitator or another suitable adult with time to respond. Tell Mentors who this person is. If a Student cannot participate safely, pause tool use and involve that adult while maintaining supervision; contact the parent if safe participation cannot resume. This support does not replace the assigned Mentor.
- ☐ Mentors:
  - ☐ _____
  - ☐ _____
  - ☐ _____
  - ☐ _____
  - ☐ _____
  - ☐ _____
  - ☐ _____
  - ☐ _____
  - ☐ _____
- ☐ Volunteers (list task and name):
  - ☐ _____

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

Site Logistics

- ☐ Recommended Mentor arrival time: _____
- ☐ Recommended Student arrival time: _____
- ☐ Camp start time: _____
- ☐ Camp end time (parent pickup): _____
- ☐ Electrical start: _____ Customization: _____ Final photos/closing: _____
- ☐ Transition caller: _____
- ☐ Protect the final 90 minutes for electrical learning, customization, photos, and pickup. For a 3:30 PM finish, aim to start electrical by 2:00 PM, move to customization at 2:50 PM, and begin final photos and closing at 3:15 PM. The Education Lead calls transitions with the Host Facilitator. Adjust these targets for the camp; shorten earlier optional activities if needed rather than rushing safety or removing the electrical lesson.
- ☐ All mentors completed background checks through the GRIT Foundation
- ☐ All students completed the liability release form through the GRIT Foundation
- ☐ Signage made for drop-off, restrooms, and any other areas
- ☐ Signage made for sponsors
- ☐ Dangerous items secured, locked out (brakes, shears, hoists, forklifts, etc.)

Mentor Arrival

- ☐ Education Lead has led a pre-camp walkthrough meeting with Mentors
- ☐ Mentors have staged any remaining setup items (such as borrowed tools)
- ☐ Give Mentors some time to socialize with each other
- ☐ Have Mentors gather out front at the drop-off location to welcome students

Welcome and Parent Drop-Off

- ☐ Outdoor signage for drop-off area
- ☐ Volunteers/mentors welcoming people in
- ☐ Sign-in table at the front
- ☐ Volunteers assigned to sign-in tables
- ☐ Student name badges organized
- ☐ Mentor name badges organized
- ☐ Student refreshments
- ☐ Mentor refreshments and coffee

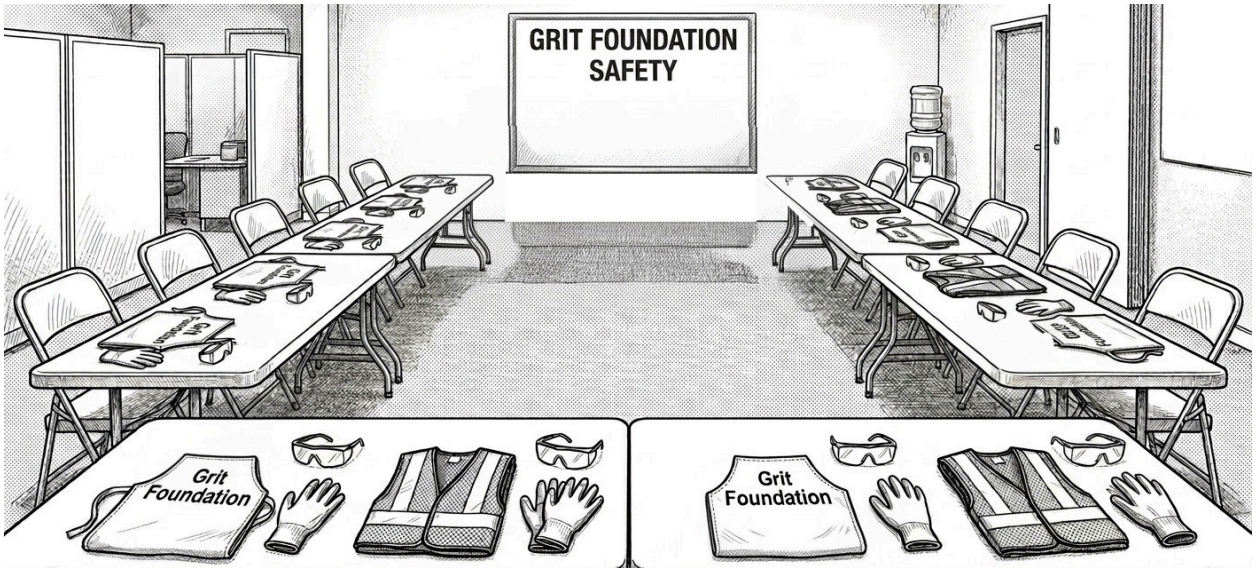
Challenge Introduction

Treat the Challenge Introduction and Safety Briefing as one combined opening session, with an 8–10-minute target that covers all required safety points. Begin at the meetup area or in the safety room, then announce Mentor–Student pairings after the session and before work begins.

The Education Lead will be in charge. Their job is to get Students to think about the importance of concrete work, carpentry, roofing, bricklaying, plumbing, electrical, and HVAC. The **GRIT Camp Education Lead Guide** prepares them for this responsibility.

Safety

This room will be indoors and may be used for lunch and possibly the electrical section, too. The Education Lead typically leads the safety section, but this task may also be delegated. The **GRIT Camp Safety Guide** contains the flow and script of the safety briefing.



- ☐ Education Lead OR Alternative Safety Leader: _____
- ☐ Room set up in a U shape or V shape
- ☐ Have a small first-aid kit in the area
- ☐ Place one PPE kit shipped from GRIT at each Student's seat:
  - ☐ Safety glasses ☐ Safety vest ☐ Gloves ☐ Tool apron

Student Tools

Tools and the blueprint are handed out after the safety briefing. It often helps to have these separated into small individual cardboard boxes, but they can be handed out individually if preferred. This can happen in the same room, at the room's exit, or in the next section.

GRIT-Provided

- ☐ GRIT tape measure
- ☐ GRIT 6-in-1 screwdriver
- ☐ Carpenter pencil
- ☐ Permanent marker

Optional

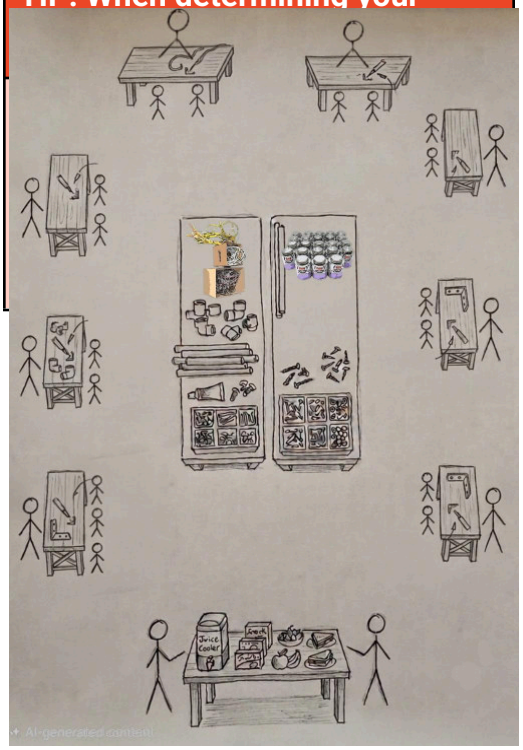
- ☐ Optional Host-provided speed square or other tool(s): _____

Mentor/Mentee Pairing

Pair Students with Mentors after the combined Challenge Introduction and Safety Briefing and before work begins. This allows time for late arrivals. The Host Facilitator may call each Mentor and up to two Students together or send the assigned Students to their Mentor's Station.

Mentors will help Students start discovering their tools, such as by asking them to take apart their 6-in-1 screwdriver, before the work begins.

TIP: When determining your



Work Area Setup

Arrange Station tables in a U shape around the supply table(s) in the middle. **Whenever this guide says "X per Station," the Station multiplier is based on table count.**

Have Mentors on the outside of the table so that they can look inward to see what everyone else is doing.

Have Students on the inside looking out so that they only see their Mentor.

Arrange the refreshment table on the open end of the U, where the Host and Volunteers can see everyone.

Each camp is different, with different areas available. A sample build is entirely optional; the Host decides whether and when to complete one and supplies its materials. The 16-Student purchasing examples below allow 19 project sets: 16 Student sets, 2 spare sets, and 1 optional sample set. If no sample is planned, omit that one set while keeping Student and spare quantities.

Refreshment Setup

- ☐ Water, juice, and snacks
- ☐ Coffee for mentors
- ☐ Extra hair ties
- ☐ FULL first aid kit
  - ☐ Bandages ☐ Burn cream ☐ Antiseptic wipes ☐ Antibiotic ointment ☐ Tourniquet
- ☐ Fire extinguisher
- ☐ Fire blanket
- ☐ Instant camera when not in use
- ☐ Emergency contacts
- ☐ Addresses of the location and the nearest hospital
- ☐ Low-level CO monitor and ventilation evacuation plan

Supply Table Setup

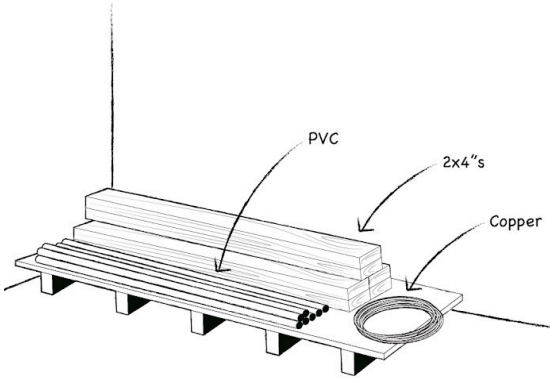
- ☐ **3” T-25 wood screws** (10 per project set; include an optional sample, if planned, + about 10% spare). For 16 Students, stage 190; buy at least 200 by count pack or 1-lb/5-lb boxes with verified piece counts.
- ☐ **T-25 bits** (1 per Station)
- ☐ **1.25” finish nails** (10 per project set; include an optional sample, if planned, + about 10% spare). For 16 Students, stage 190; a 1-lb box is a convenient buying unit when its labeled count supplies at least 200 nails.
- ☐ **Emery cloth sandpaper** (6” per project set including an optional sample, if planned, + about 10% spare; one 10-ft roll covers 19 sets for a 16-Student camp)
- ☐ **PVC glue & primer taped together** (1 matched PVC-compatible pair per Station, usually 4-oz or 8-oz cans, plus one shared spare pair)
- ☐ **Cardboard to use over tables when gluing** (1 per Station)
- ☐ **Teflon tape or pipe compound**
- ☐ **¾” Schedule 40 PVC adapter, slip socket FPT, coupling** (1 per Student)
- ☐ **¾” Schedule 40 PVC slip socket coupling** (1 per Student)
- ☐ **¾” Schedule 40 PVC cap** (1 per Student)
- ☐ **¾” copper sweat x ¾” NPT adapter** (1 per Student)
- ☐ **Copper caps for ⅞” OD tubing / ¾” nominal copper (1 per Student only for the selected capped-end option). Specify plain caps for camp joining or identify a prepared subassembly explicitly. If using the approved swaged-end option, omit these caps and provide the matching swaging tool.**
- ☐ **0%, 5%, or 15% phos copper brazing rods** (at least 1 full-length rod per project set including an optional sample, if planned, + about 10% spare, plus training demand). Buy by labeled tube or pound pack and verify rod count, diameter, and length.
  - Replace with silver-bearing, lead-free plumbing wire solder and matching plumbing flux if soft-soldering only
  - See the **GRIT Soldering, Brazing & Aluminum Repair Quick Start Guide**

Optional Items:

- ☐ **Other fastener types and sizes for discovery/discussion**
  - Self-tapping screws, drill point screws, concrete screws, roofing nails, etc.

Larger Supply Area Setup

These can be located in a separate area, under the supply tables, or anywhere else that seems fit and safe for the area you have to work with.



- ☐ **⅞” OD soft copper tubing (do NOT pre-cut; purchase 14” of stock per project set as a trimming allowance, plus separate practice stock). Include an optional sample only if planned and about 10% spare sets. For 16 Students, a 25-ft coil covers 19 sets with about 2 ft 10 in left before cut losses; add practice stock if needed. Cut to the Blueprint dimensions during camp; 14” is a purchasing allowance, not the finished cut length.**
  - Alternatively, ¾ ID plumbing copper can be used if ⅞” OD ACR is not available
- ☐ **¾” Schedule 40 PVC pipes (do NOT pre-cut; purchase 14” of stock per project set as a trimming allowance). Include an optional sample only if planned and about 10% spare sets. For 16 Students, buy three 10-ft lengths for 19 sets plus cutting/practice allowance. Students cut to the Blueprint dimensions during camp.**
- ☐ **2x4 lumber cut down to 5-ft length** (1 per project set including an optional sample, if planned, + about 10% spare). For 16 Students, buy 19 sound 8-ft boards if each must supply a 5-ft starter; keep offcuts for practice.
  - Include drops or unused and extra pieces
- ☐ **Luan backing or pegboard PRE-CUT to 17.5" x 12.5”** (1 per project set including an optional sample, if planned, + about 10% spare; 19 for 16 Students). The backer is intentionally inset to avoid overhang. Aim for about ½” inset from the outside frame edges; measure the actual frame and verify secure fastening before bulk cutting.
  - Backer cutting can be time-consuming. Verify the intentionally inset size and secure fastening against the actual frame dimensions before bulk cutting. A sample build may be used for this check if the Host chooses to make one; it is not required.

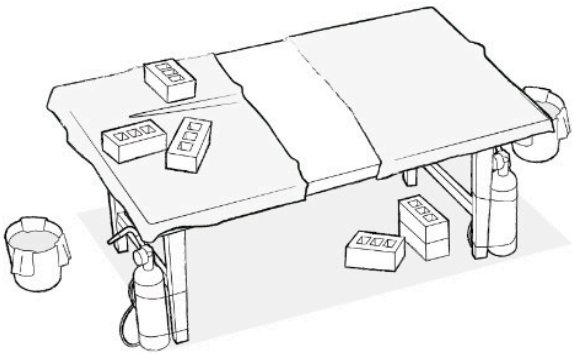
Optional Items:

- ☐ **Non-2x4 lumber samples for discovery**
  - Recommended: 4x4, 2x6, 1x4, raw cut, planks, oak, etc.

Work Table (Station) Setup

Plan for each table to have 1 Mentor and 2 Students.

- If you have extra mentors, 2 Mentors and 2 Students is fine
- Each Mentor may coach no more than 2 Students. Arrange more trained Mentors or fewer Students if needed; do not assign a third Student to a Mentor. Plan at least one additional floater Mentor, preferably experienced, for breaks and support. The Education Lead is a separate role.



- ☐ **Cored bricks or fire bricks** (4 per Station)

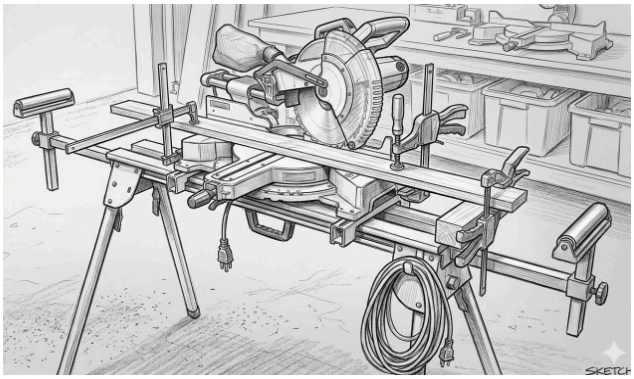
- ☐ **One bucket half-filled with water per Station**
- ☐ **Towels or rags** (4 per station)
- ☐ **Agreed-upon torch kits** (1 per Station)
    - Choose ONE option from the **GRIT Soldering, Brazing & Aluminum Repair Quick Start Guide** and use that checklist for torches, strikers, etc.
    - Torch selection should be based on **Host & Mentor familiarity**

Saw/Cutting Area Setup

The saws are often located outside because of the sawdust. Make sure there's enough space between them so that the Students won't strike one another with long boards and that all tools are **safe and functional BEFORE the GRIT Camp**.

Ask your Mentors or Volunteers if they have:

- ☐ 1 miter saw (with guard) for every 4 Students
- ☐ Two working clamps per saw, or the saw's manufacturer-provided clamping system (preferred), used according to its instructions
- ☐ Sawhorses or other cutting platform



Saw/Cutting Area Safety Checklist

- ☐ Each saw has a working safety guard
- ☐ Each saw has two working clamps or its manufacturer-provided clamping system (preferred), properly set for the cut
- ☐ Cords run without a trip hazard
- ☐ Saws are unplugged before and between uses
- ☐ No skill saws in use!!

Hand Tools

YOU MUST COMMUNICATE WITH YOUR MENTORS FOR THIS SECTION. Many Mentors will bring their own tools, but they may be missing a few (or all) of them. Deduct those from the amount you need to stage.

Try to have **at least one of each tool per table or Mentor & Student group**. Some Hosts prefer to have all the tools needed at each table. Other Hosts prefer to have the tools on a shared table if they do not have enough per table.

- ☐ **Rotary drill with a chuck compatible with the selected Forstner-bit shank (½" chuck recommended). Most Forstner bits do not fit an impact driver's quick-change chuck. Use the drill to drive screws, or provide a separate impact driver.**
- ☐ **15/16" Forstner bit preferred for the copper opening; 7/8" is an alternative after a fit check with the actual tubing. Order early and test the selected bit in scrap wood.**
- ☐ **1 1/8" or 1 3/16" Forstner bit** (order in advance; difficult to find locally)
- ☐ **Hammer**
- ☐ **PVC cutters**
- ☐ **Copper tubing cutters**
- ☐ **Copper deburring tools**
- ☐ **Water pump pliers**
- ☐ **Adjustable wrench**
- ☐ **Multimeter** (for the electrical section)

Optional

- ☐ **7/64" or ⅛" pilot bit** (highly recommended for dry climates to keep wood from splitting)
- ☐ **Speed square**
- ☐ **Clamps** (any type)
- ☐ **Needle-nose pliers**
- ☐ **Swaging tools** (if used instead of a cap)

Carpentry and PVC & Copper Modules' Flow

When the Students leave the safety section, they will be with their Mentor at their Station. The Mentor will guide the Students through the Carpentry Module, where they will:

1. Measure the 2x4s (and other wood types for discovery)
2. Cut the 2x4s with a saw
3. Screw the wood frame together
4. Use Forstner bits to bore holes slowly into the wood per the blueprint

Again, Forstner bits may be difficult to find locally. If Forstner bits are not available, Mentors will make the holes using paddle bits or a wood saw.
Mentors will then guide their Students through the PVC & Copper Module, where they will:

1. Measure and cut PVC with the proper cutter
2. Insert the PVC into the frame, gluing the cap and adapter
3. Recut the PVC and glue couplings if mistakes are made
4. Unroll copper

5. Measure and cut copper with the proper cutter
6. Fully seat the copper into the cup and braze or soft-solder the copper to the adapter (using flux, if soldering), and braze or soft-solder the cap, unless swaging
7. Join the copper and PVC, using Teflon tape and hand tools for a tight connection
8. Nail the backing board once the tubing connections have been checked

The groups may or may not get all of this done before lunch. Whenever the food arrives and is ready to be served, everyone will stop for the lunch lesson.

Lunch Lesson

- ☐ Lunch chosen: _____
- ☐ Drink(s) chosen: _____
- ☐ Approximate delivery time: _____
- ☐ Room or place for the Mentors to sit and eat: _____
- ☐ Education Lead doing demos: _____

Plan 45–60 minutes total for lunch and the module. Select the "discovery" activities your camp will do and which items you'll have ready to use (see the **GRIT Camp Lunch Guide** for specific demonstrations; pick only a few for the Students to discover):

- ☐ **Density Samples & Thermal Camera**
  - ☐ Thermal imaging camera (strongly recommended; borrow from the group if available), or an infrared thermometer as the minimum substitute for the temperature activity
  - ☐ 1" tungsten, copper, and aluminum cubes
- ☐ **Conduction, Convection, & Radiation**
  - ☐ Warm surface (like a heat mat)
  - ☐ Plug-in or battery-powered fan (or another object that moves air)
  - ☐ Radiant heat source (such as a heat lamp)
- ☐ **Stirling Engine**
  - ☐ Tabletop Stirling engine (low-temperature-difference gamma or displacer-style)
  - ☐ Ice cube and/or a gentle heat source (such as a heating mat)
- ☐ **Evaporative Cooling**
  - ☐ Spray bottle (to be filled with water)

- ☐ Plug-in or battery-powered fan
- ☐ **Atmospheric Mat**
  - ☐ Atmospheric pressure mat with a hook or handle
- ☐ **Air Cannon & Cups**
  - ☐ Air cannon
  - ☐ At least 10 dry, clean paper cups
- ☐ **Hand Boiler**
  - ☐ Handboilers
- ☐ **Drinking Bird**
  - ☐ Drinking bird
- ☐ **Bernoulli Bags**
  - ☐ Bernoulli bags
- ☐ **Smoke Generation**
  - ☐ Site-approved smoke tracer, used only as directed in the Lunch Guide; use a ribbon or tissue alternative if smoke is unsuitable. No flame or improvised smoke source.
  - ☐ Fan
- ☐ **Tarp / Sheet**
  - ☐ 1 tarp or sheet large enough for ALL Students to hold at once

Activities with a TRAINED OPERATOR ONLY:

- ☐ Vacuum chamber with balloons, marshmallows, water, and a wind-up alarm clock
- ☐ 55-gallon drum, NAVAC flex vacuum hose, ¾” NPT to ⅜” bushing & ⅜” NPT male x ¼” flare male adapter

After the lunch lesson, they will finish up where they left off or move into the aluminum repair section, if that will be done at your camp.

Aluminum Repair (optional but recommended)

Arrange all of these items in a separate area:

- ☐ **Stainless steel wire brush** (1 per Station)
- ☐ **Aluminum repair kit/rods** (1 per Station)
  - Lucas-Milhaupt AL 822 or Harris Aluxcor Zn78/22 flux-cored repair rod
  - SolderWeld Alloy-Sol with its matching powder flux
  - Uniweld UNI-4300 with its matching liquid flux
- ☐ **Clean aluminum cans — 30 total per camp, including practice and spare cans**
- ☐ **All-aluminum coil** (no copper U-bends)
  - Clean, degrease, and brush the repair area
- ☐ **⅛” drill bit or sharp awl**

You may use a **propane or MAP-Pro torch or an air-acetylene rig with an A-3 tip**. Do NOT use oxy-acetylene for aluminum repair. Please consult the **GRIT Soldering, Brazing & Aluminum Repair Quick Start Guide** for details on the torch options and activity procedures.

Disassembly Setup (optional but recommended)

If you're including disassembly, plan to acquire **one item to disassemble per team**.

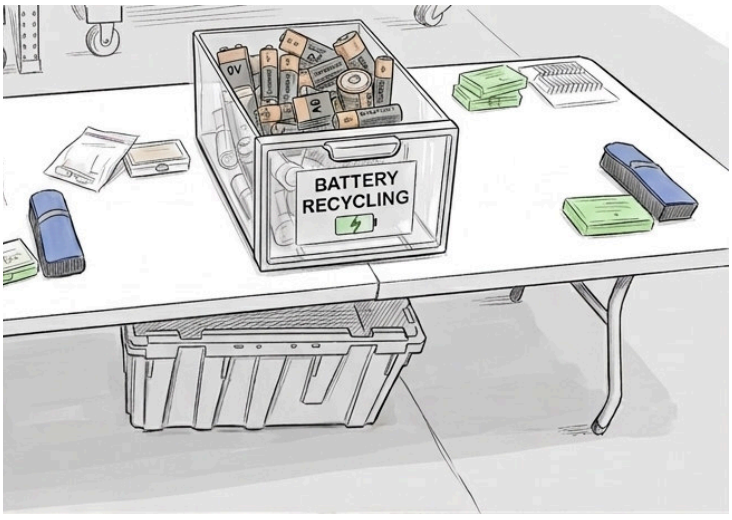
These items should be nearby but out of the way, like the aluminum tools and materials:

- ☐ **Blower**
- ☐ **Condenser fan**
- ☐ **Furnace**
- ☐ **Toaster**
- ☐ **Hair dryer**
- ☐ **Electrical panel**

The tools for disassembly are included in the GRIT-provided Student kits (screwdriver) or at the supply table:

- ☐ **Sandpaper / Abrasive cloth**
- ☐ **Assembly lubricant**
- ☐ **Adjustable wrenches**

Electrical Setup



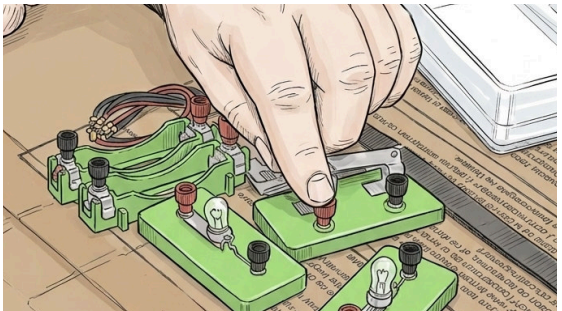
This module generally takes place at a group table in an indoor location. Students will get one kit each, and there should be one electrical meter per group (which Mentors may provide).

GRIT-Provided:

- ☐ Electrical circuit kits (1 per Student plus 1 extra)

Host-Provided:

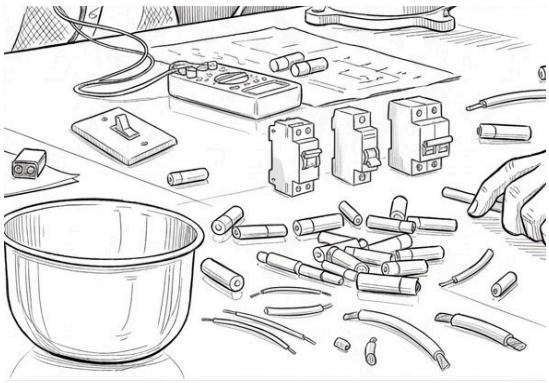
- ☐ **AA batteries** (at least 2 good batteries per Student, with several dead & corroded, PLUS extras of each type)



- ☐ **Other battery types** (AAA, 9V, etc., for discovery)
- ☐ **Electrical meters** (Mentors may provide; communicate with them in advance)
- ☐ **Small, 3V bulbs** (a mixture of bad/good bulbs for Students to find and test)

Optional (for discovery):

- ☐ **Scrap copper wire**
- ☐ **Extra switches**
- ☐ **Breakers**



You MUST have good and bad batteries and bulbs. If you do not have any bad batteries or bulbs, you can create them:

- Connect the terminals of a good AA battery with a short copper wire
- Connect 3V bulbs to a 9V power supply

Final Customization Setup

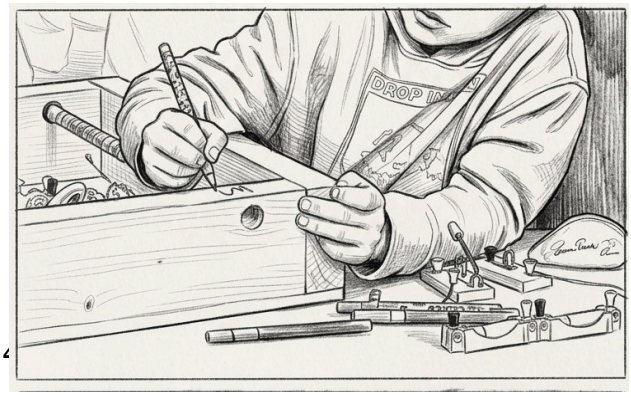
Students have a chance to add a final creative touch to make this box their own.

Make sure Students receive the pictures of them learning the skills, which will be taken by the photography Volunteer throughout:

- ☐ The Volunteer should organize photos into neat stacks by face
- ☐ Arrange the stacks in a central location for the Students to find

While Hosts have a lot of freedom with the items they choose for their craft table, here are our recommendations:

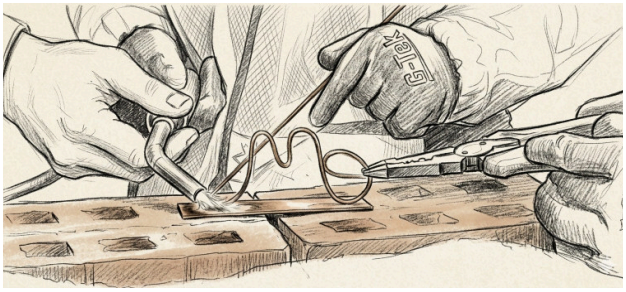
- ☐ **Hot glue guns and sticks** (required)
  - Extension cords may be required, depending on the area layout
- ☐ **Scissors**
- ☐ **Paint markers**
  - Assorted colors
- ☐ **#10 or #12 scrap bare solid wire**
- ☐ **Mounting or double-sided tape**
- ☐ **Decorative tape**
  - Duct tape
  - Masking tape
  - Painter's tape
  - Gaffers tape



- ☐ **Decorative items**
    - Markers
    - Colored paper
    - Stickers
- ☐ **Fairy lights**
- ☐ **Other arts and craft supplies of the Host's choice**

Hosts may also consider adding a couple of tools (used with Mentor supervision) for an extra creative touch:

- ☐ The camp's selected copper-joining torch system, matching soft solder/flux or brazing filler, and scrap copper wire
    - Use pliers to bend the wire into initials and join them to flattened copper using the camp's selected soft-soldering or brazing method



Post-Camp Duties

After the GRIT Camp, there should be photos taken to showcase the accomplishments of the individuals and teams throughout the GRIT Camp:

- ☐ Individual Students and their boxes
- ☐ Students with their Mentor
- ☐ A full group photo

Here are some post-camp items:

- ☐ Conduct exit interviews with each Student **(optional; great for camp recap videos)**
- ☐ Conduct exit interviews with each Mentor **(optional; great for camp recap videos)**
- ☐ Ensure Students get picked up by their families
- ☐ Clean up the area
- ☐ Discard trash and used materials
- ☐ Return tools to their proper owners or location at the facility

Thank you for having everything prepared ahead of time! Your work here is instrumental for a smooth-running GRIT Camp, which everyone will appreciate.