We have developed a list of tools and materials that we've used to help stock up some schools' Makerspaces. Our tool list, below, appears with more detail in the Resources section at the end of the playbook.

Reusable Tools List

JOINING
- staple gun
- hot glue gun
- hot glue gun
- pop riveter
- box rivets
- big sewing needles
- paint brushes (1" and 3")
- straight pins
- splice set
- tap and die (SAE + Metric)

MECHANICAL
- screwdriver set (precision)
- screwdriver set (big)
- allen (SAE + metric)
- claw hammer
- mallet
- combination wrench
- ratchet set
- joint pliers (channel locks)
- miter box
- PVC pipe cutter
- socket set
- driver bits
- hollow-shaft nut drivers

ELECTRONICS
- Arduino
- LilyPad
- soldering iron
- soldering tips
- crimper tool
- wire cutter
- wire stripper
- diagonal cutter
- solder sucker
- digital multimeter
- solder tip tinner
- 1/2 size breadboard
- third hand
- tweezers
- solder
- heat gun

CUTTING
- hole saw
- metal file(s)
- file card
- chisel/rasp set
- tin snips
- box knives
- X-acto knife
- scissors
- drill bits
- sanding block
- hacksaw
- wood-saw
- block plane
- deburring tool
- countersink
- awl
- cutting mat
- hand-crank (rotary) craft drill

FIXTURING
- vise
- C-clamps
- bar clamps
- needlenose
- locking pliers
- adjustable wrench
- binder clips
- locking pliers

BATTERIES / POWER
- AA NiMH and charger
- AA NiMH
- 9V battery clip
- 4 AA battery holder
- 3 AA battery holder
- 2 AA battery holder
- alligator clips

TEXTILE/SOFT CIRCUIT
- Fabric scissors
- pinking shears
- seam ripper
- cloth tape measure
- sewing needles
- iron
- embroidery needles
- needle threader
- snap setter
- Serger

STORAGE TOOLS
- containers
- labels
- camera
- broom
- dust pan and broom
- Shop Vac

POWER TOOLS
- jigsaw (electric)
- sewing machine
- drill
- extension cord
- Dremel

EXTENSION
- 3D printer
- CNC mill
- laser cutter
- circular saw
- orbital sander
- table saw
- hot wire foam cutter
- plastic bender

ETC
- tool box
- workbench
- saw horses
- CNC router

Strategies for Stocking Up

Few spaces can afford to buy all the equipment they want, especially at retail price. Used equipment and tool donations can be a big help. Some equipment makers will offer discounts to educational and non-profit groups. Tool rental or leasing is also an option for larger equipment.

Acquire general-use equipment before task-specific tools. Get simple and affordable tools ahead of advanced and expensive ones. Before getting a major piece of equipment, be sure there is a both a need for it and the expertise to use it. There's nothing more lonely than a big expensive tool laying unused because no one knows how to use it.

Third-party services can make up for a lack of some tools. Laser cutting, 3D printing, milling and other services that a smaller space might find hard to afford can be hired out. Or you might be able to work out a deal with your local hackerspace or TechShop to use time on one of their high-end machines until you're ready to purchase one for your space. It's also possible to get pricing breaks if several project teams combine their orders. If you do hire out the fabrication, keep in mind that the price of these tools drop over time, and there's really no substitute for hands-on experience using them.

The more you spend on a tool the more speed, precision and capability you typically get. Computer Numerical Control (CNC) tools provide a way to reliably and precisely reproduce items. Additionally laser cutters and 3D printers provide quick and precise fabrication that is difficult or impossible with non-computerized tools.