

WOODWORKING



TOOLS & MATERIALS

measuring tape & pencil
hand saw, jigsaw, sander
power drill, drill bits, screws
hammer & nails, clamps
scrap wood pieces

SAFETY EQUIPMENT

safety glasses
ear protection
gloves

SKILLS TO LEARN how to measure, mark, cut, sand & fasten wood

STEP 1: measure and mark a piece of wood every 4 inches with a pencil

STEP 2: clamp and cut the marks using both a hand saw and a jig saw

STEP 3: fasten two pieces into an “L” shape using a power drill and screws

fasten two pieces together using a hammer and nails

STEP 4: sand the pieces smooth using an orbit sander



TOOLS & MATERIALS

electricity maker kit
electrical tape & wire strippers
PVC pipe & cardboard

SAFETY EQUIPMENT

safety glasses & gloves

SKILLS TO LEARN how to create electrical circuits

STEP 1: prep materials - precut electrical tape, poke 2 holes in cardboard.

STEP 2: twist red wire around brass fastener, put a paper clip through the end, poke through cardboard hole, flatten the brass fastener ends and secure with tape. Repeat with the black wire.

STEP 3: complete the first circuit by hooking the black wire through the light holder, fold wire down to secure. Attach the red wire on the paper clip and battery together. Repeat with black wire. Flip paper clip to turn on the light bulb. Disconnect.

STEP 4: try to make a circuit with the buzzer and then the propeller (tape to a PVC or PEX pipe to allow propeller to spin).

STEP 5: disassemble the circuits when finished for the next person to use.



PEX PIPE HULA HOOP

TOOLS & MATERIALS

**PEX pipe, crimp rings, couplings
measuring tape & marker
pipe cutter, crimp tool**

SAFETY EQUIPMENT

safety glasses & gloves

SKILLS TO LEARN how to measure, cut & connect PEX pipe

STEP 1: measure and mark the pipe to 7.5 ft or 90 inches. Cut the pipe using pipe cutters.

STEP 2: add a crimp ring to one end of the pipe. Insert the coupling on the same end of pipe as the ring.

STEP 3: crimp the ring into place using the crimp tool.

STEP 4: add the second crimp ring to the other side of the pipe and insert the coupling to make a circle.

STEP 5: crimp the second ring into place using the crimp tool.

STEP 6: follow the same steps above to attach pipe and fittings for other projects.

STEP 7: carefully disassemble the hula hoop using the pipe cutters and crimp ring remover tool if the pipe is needed for future projects.



TOOLS & MATERIALS

combination square
measure tape or ruler
tin snips & hacksaw
folding bar & metal file
drill & 1/8 drill bit
rivet tool & rivets
sheet metal, marker, clamps

SAFETY EQUIPMENT

safety glasses & gloves

SKILLS TO LEARN how to measure, cut, bend, file and fasten metal

STEP 1: mark a straight line using a combination square, cut with tin snips

STEP 2: file down the rough edges and bend the edge with a folding bar

STEP 3: drill a hole into the metal piece using a drill and 1/8 drill bit

STEP 4: fasten the metal piece using a rivet tool and rivets into the 1/8 hole

STEP 5: now try cutting or trimming a piece of metal using a hacksaw



TOOLS & MATERIALS

Graphic Design Workbook “Logo Design Activity”
Something to color with (markers, pencil crayons, etc.)

SKILLS TO LEARN how to create a logo using the graphic design process and elements

STEP 1: brainstorm words that might inspire a logo

STEP 2: sketch your ideas onto paper

STEP 3: choose one favorite sketch idea and add some text

STEP 4: add color by thinking about complementary colors, emotions and texture

STEP 5: get feedback from a friend, make revisions and show off your final design

BONUS: apply your logo to a fabric keychain using heat transfer paper



FABRIC KEY CHAIN

TOOLS & MATERIALS

metal ruler, marker, scissors,
sewing needle, thread, fabric,
interfacing, circle template, heat
press, transfer paper, key ring, twill

SAFETY EQUIPMENT

safety glasses & gloves

SKILLS TO LEARN how to measure, cut, sew, and apply transfer paper to fabric to create a personalized key chain

STEP 1: trace circles on fabric and interfacing. Cut with scissors.

STEP 2: iron on interfacing using heat press.

STEP 3: measure 1 inch gap on fabric circles. Hand stitch the front and back fabric pieces together using the running stitch or blanket stitch.

STEP 4: print or draw personalized logo on transfer paper following transfer paper instructions. Use heat press to apply transfer paper.

STEP 5: measure 2 inches of twill. Wrap around key ring, insert in 1 inch gap of fabric, sew with running stitch.



TOOLS & MATERIALS

**Instax Instant Camera with film,
Phone camera (optional), a subject to photograph**

SKILLS TO LEARN how to use polaroid camera and set the stage for a photo

STEP 1: install batteries and film in polaroid camera

STEP 2: get familiar with the camera and its' features

STEP 3: consider the composition, lighting, and purpose of your photo

STEP 3: arrange your subject in your setting and snap a photo!