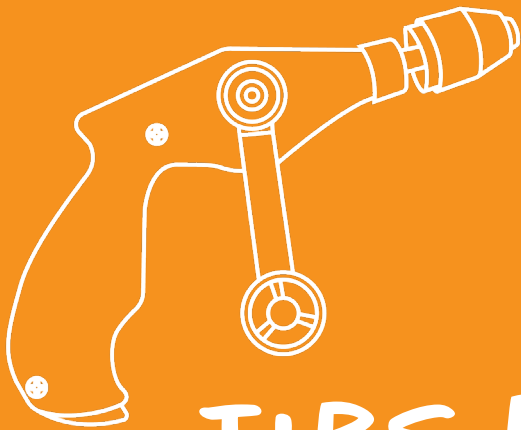
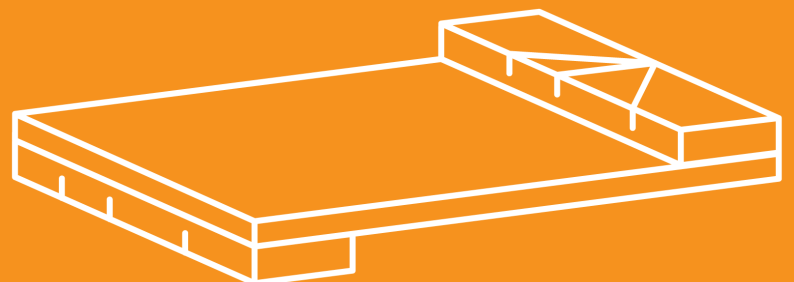
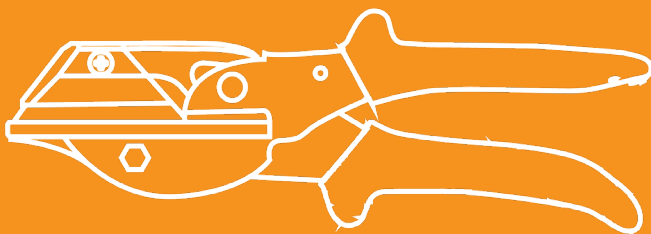


KIDDER STANDARD SAFETY INSTRUCTIONS



TIPS FOR STUDENTS
AND TEACHERS WHEN
USING HAND TOOLS.



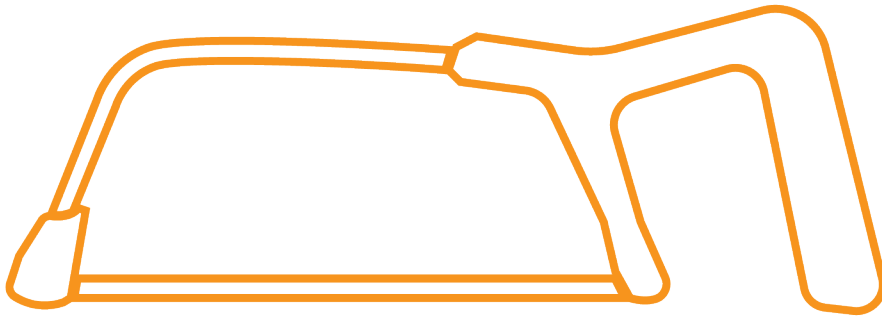
All too often safety instructions are overlooked or ignored. In an effort to mitigate risk and prevent injury, we at Kidder have developed a series of interactive questions designed to engage students in the process of thoughtfully implementing safety procedures during hands on activity. This is meant to be a natural conversational activity approach to methodically and successfully accomplishing their desired goals.

HANDS ON ACTIVITY

HERE ARE 4 QUESTIONS THAT SHOULD ALWAYS BE CONSIDERED

1. Are you wearing the right safety equipment?
2. Do you have the right tools?
3. Will you be safe if you start working?
4. What is the correct way to use the tool?

EACH QUESTION CAN GENERATE A DISCUSSION WITH A STUDENT OR ADULT REGARDING SAFETY AND PROCEDURES.



1. BASIC HACK SAW

ARE YOU WEARING THE RIGHT SAFETY EQUIPMENT?

Goggles should always be worn when working with any tools that will create dust or cause small particles that can get into your eyes. **Gloves are not encouraged** to be used when using cutting tools. The grip might be affected and can result in an unstable cut.

DO YOU HAVE THE RIGHT TOOLS?

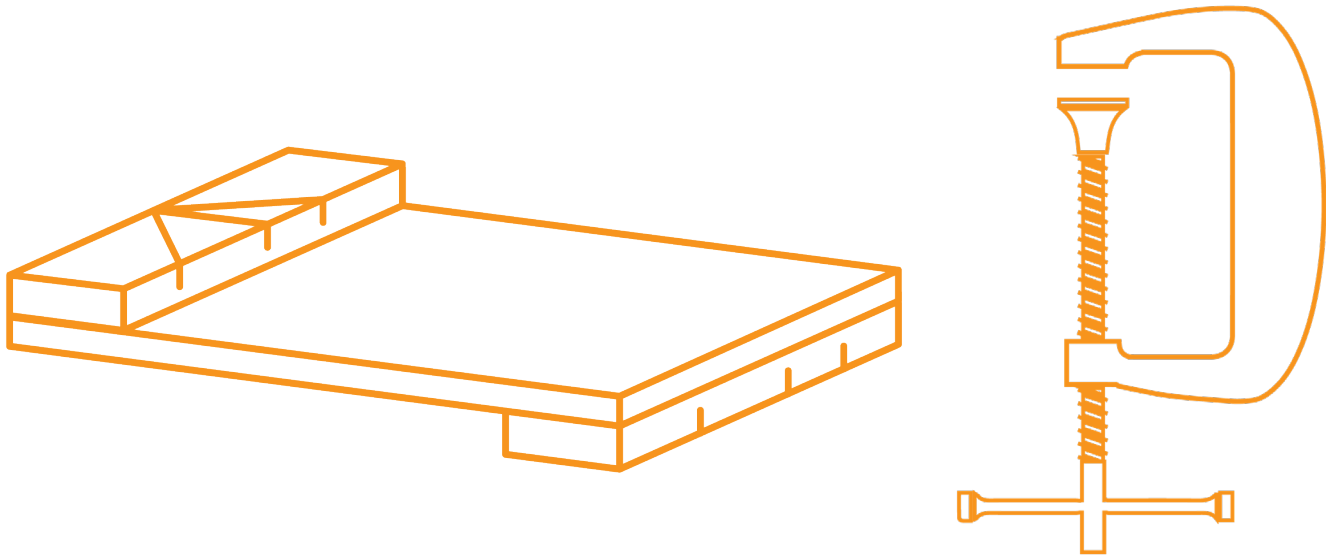
A bench hook and C-clamp secures basswood strips or dowels easily and prevents it from moving. 45 Angles can be cut with ease.

WILL YOU BE SAFE IF YOU START WORKING?

Make sure that there is enough space to work. You'll be using your whole arm each time you saw back and forth. The area around where you are working should be **clear** of books **and tidy**.

WHAT IS THE CORRECT WAY TO USE THE TOOL?

1. Put on **safety goggles** to protect your eyes.
2. Hold the hacksaw with **both hands**—one on the handle and the other on the frame. Use your dominant hand to hold the handle.
3. **Check** if the **blade** is connected properly. If it's dull or broken, let a teacher or adult know.
4. To make sure your cutting is safe and steady, **use both the C-clamp and the bench hook**. If you have a big piece, use a C-clamp to hold it in place on a table. If you're cutting small things, use a bench hook to keep them steady.
5. **Place the blade** on what you want to cut. Hold it steady. **Push forward**, then **pull back** gently. Do this slowly.
6. Watch your fingers and where you're cutting. Keep **fingers away from the blade**.
7. Try to **keep the blade in a straight line**, whether you're cutting up and down or side to side.
8. Take your time while cutting. Let the hacksaw do the work.
9. **Push and pull** the hacksaw until you finish cutting. Don't rush.
10. It's okay if it's not perfect. You'll get better with practice.



2. BENCH HOOK & C-CLAMP

ARE YOU WEARING THE RIGHT SAFETY EQUIPMENT?

Bench hooks and clamps are used with cutting tools.

Goggles should always be worn when working with any tools that will create dust or cause small particles that can get into your eyes.

DO YOU HAVE THE RIGHT TOOLS?

When securing the C-clamp take care tightening the handle. The **fixed jaw** and the **movable jaw** should make as much contact on the surfaces of where you are attaching it to. Sometimes, desks at school might not have enough space or edge to attach it really well.

WILL YOU BE SAFE IF YOU START WORKING?

If the clamp and the bench hook are secured properly,

cutting basswood and dowels is very safe and easy. Make sure that there is **enough space to work**. You'll be using your whole arm each time you saw back and forth. The area around where you are working should be clear of books and **tidy**.

WHAT IS THE CORRECT WAY TO USE THE TOOL?

BENCH HOOK

1. **Find a flat surface**, like a table, to work on. Make sure the table has some space underneath its top where clamps can be attached.
2. Place your double-sided bench hook on the table, with the **1 cm channel facing away from you**.
3. **Use a C-clamp to secure the bench hook** in place. This prevents the bench hook from moving around while you work. Refer to the C-clamp instructions for details on how to use it effectively.
4. If you're cutting thin pieces like basswood strips, **slide them into the 1 cm channel**. This will hold them securely while you work.
5. **Hold the other end of the piece you're cutting with your other hand**. This way, it stays steady against the bench hook.
6. Now you can cut without worrying about the piece

moving around. The bench hook's channel will keep it in place.

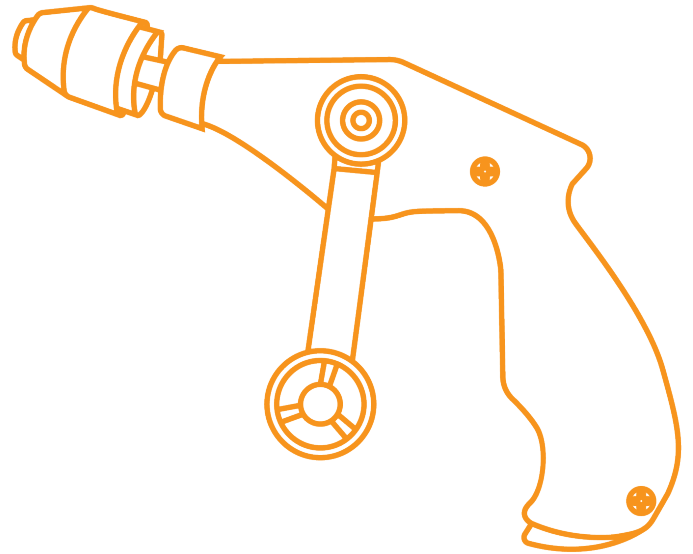
7. Be cautious of your fingers and the sharp tools. **Keep your fingers away from where you're cutting.**
8. Once you're done, you can take your piece out of the bench hook's channel.
9. Be mindful not to cut beyond the thickness of whatever you're cutting.

C-CLAMP

1. **Find a flat surface**, like a table, where you want to work. Ensure the table has enough space underneath it for the clamp to attach securely.
2. Hold the C-clamp in your hands. For best results, **place the handle beneath the clamp** to benefit from gravity while tightening.
3. Put the open end of the C-clamp over the materials you wish to hold together.
4. Slowly **turn the handle clockwise** to close the C-clamp. Make sure it's snug, avoid over-tightening.
5. **Confirm** that the C-clamp is holding the materials together firmly. This prevents them from moving during your work.
6. Be cautious of sharp edges and your fingers.

Keep your hands away from the clamped area to prevent accidents.

7. Once your work is complete, turn the handle counterclockwise to open the C-clamp and release the materials.
8. If you're concerned about the C-clamp damaging a surface, place a piece of scrap material in between. This will help protect the surface from any potential damage.



3. PISTOL GRIP HAND DRILL

ARE YOU WEARING THE RIGHT SAFETY EQUIPMENT?

Goggles should always be worn when working with any tools that will create dust or cause small particles that can get into your eyes. **Gloves should be avoided** when working with this tool. It may interrupt turning the crank and cause instability.

DO YOU HAVE THE RIGHT TOOLS?

Pistol Grip Hand Drill works well with Bench hooks and c-clamps. **Picking the correct drill bit matters** when you're using the Pistol Grip hand drill. Making a hole can be done in a few ways. If you want a hole that goes through something thick, a drill works well. But **if your material is thin**, it's safer and better to **use a hole punch**.

WILL YOU BE SAFE IF YOU START WORKING?

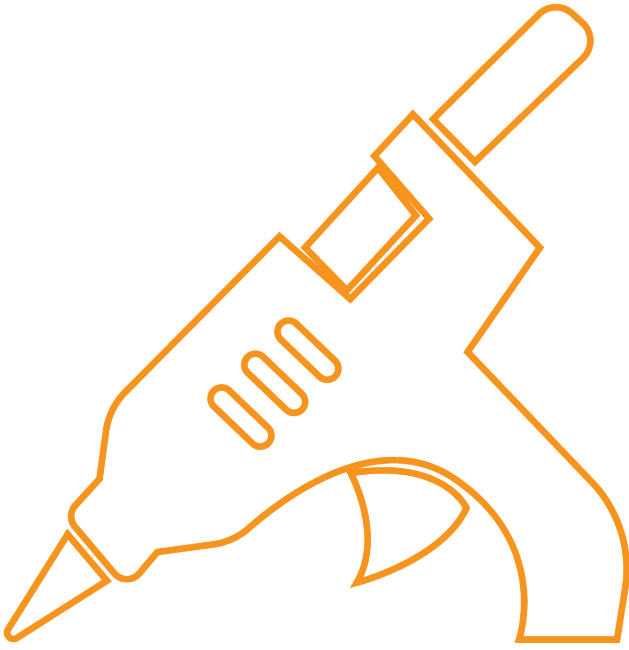
Before you start drilling, it's important to **secure all materials in place**. Remember, a drill can easily go through a desk, so be extra careful about where you're making the hole. To avoid drilling through the table, consider placing a **piece of scrap wood underneath your project**. This simple step can help prevent any unwanted holes in the desk.

WHAT IS THE CORRECT WAY TO USE THE TOOL?

1. Find a flat and stable work surface.
2. Grip the pistol grip hand drill with **one hand on the handle** and the **other hand on the body** for stability.
3. Choose the right drill bit for your task and insert it into the chuck at the front of the drill.
4. Rotate the **chuck clockwise to tighten** and secure the drill bit in place.
5. Place the tip of the **drill bit on the spot** where you want to drill.
6. Press the drill bit gently against the surface you're drilling.
7. **Firmly grip the handle** and start turning it.
The speed of turning is important. Turn too slowly

and the bit might get stuck; turn too fast and you might drill too deep.

8. If you need a specific hole depth, **you can use tape.** Wrap tape around the drill bit to the desired depth as a guide.
9. Keep the **drill straight** and apply **steady, even pressure** as you drill.
10. Adjust the pressure and speed to control the depth of the hole.
11. Continue drilling until you've reached the desired depth or completed the hole.
12. Turn the **chuck counterclockwise to loosen** and remove the drill bit.
13. Be careful not to loosen too much or the chuck can come off the thread.
14. Always wear safety goggles to protect your eyes. If you're unsure, ask for guidance from someone experienced.



4. GLUE GUN

ARE YOU WEARING THE RIGHT SAFETY EQUIPMENT?

Goggles should always be worn when working with any tools that will create dust or cause small particles that can get into your eyes. In this case, there might be some fumes that may irritate eyes. The glue becomes molten (hot and liquid). **Gloves** are very useful when using tools that have a hot end.

DO YOU HAVE THE RIGHT TOOLS?

Glue guns are highly useful for projects, providing a quick solution for assembling parts. However, it's important to note that while they work fast, they can be messy and may not create the strongest bond between parts. White glue or wood glue work well but require more time to set.

WILL YOU BE SAFE IF YOU START WORKING?

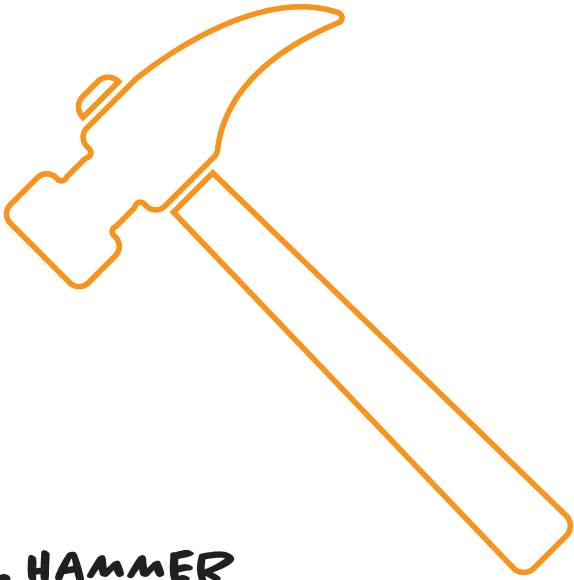
Glue gun holders are really helpful to avoid accidental burns and keep tables clean. Ensuring a stable power supply is also important. **Power bars with longer cords** can prevent glue guns from falling off the table. Another thing to **watch out for is tripping** hazards. Be sure to be prepared to **treat burns**. If someone experiences a burn, document what occurred and make sure you call home.

WHAT IS THE CORRECT WAY TO USE THE TOOL?

1. **Plug in** the glue gun and allow it a few minutes to heat up. Place it on a **heat-resistant surface** or a stand.
2. While the glue gun is heating up, **insert a glue stick** into the back end of the gun. Make sure the glue stick fits snugly.
3. **Wait** for the glue gun to fully heat up. You'll notice the glue stick melting and becoming ready for use.
4. Hold the glue gun with one hand on the trigger and the other on the body for stability.
5. Put on **safety gloves** on the hand that's holding the material you'll be gluing. This will protect your hand from any accidental contact with the hot glue.
6. **Point the nozzle** of the glue gun at the area you

want to apply glue to.

7. Gently **squeeze the trigger** to release the melted glue. Start with a small amount to avoid excess.
8. Adjust the pressure on the trigger to control the flow of glue. Practice to find the right amount for your task. While the glue is still melted, **press the items you want to glue together**. Be cautious not to burn your fingers.
9. **Hold** the items together for a short while to allow the glue to cool and bond.
10. Release the trigger to stop the flow of glue.
11. After using the glue gun, **place it back on its stand** or a heat-resistant surface. Unplug it to cool down.
12. Always be cautious of the hot glue and **avoid touching the nozzle** while it's hot.



5. HAMMER

ARE YOU WEARING THE RIGHT SAFETY EQUIPMENT?

Goggles should always be worn when working with any tools that will create dust or cause small particles that can get into your eyes. Using gloves is an option as long as the user has a good grip.

DO YOU HAVE THE RIGHT TOOLS?

A hammer is used with nails or dowels. **Do not hammer screws.** The **claw is used to remove nails.** It is not used for chipping away material.

WILL YOU BE SAFE IF YOU START WORKING?

Before using the hammer, it's important to make sure that you have enough space around. If using small nails, **needle nose pliers are helpful in avoiding hammering any fingers.**

WHAT IS THE CORRECT WAY TO USE THE TOOL?

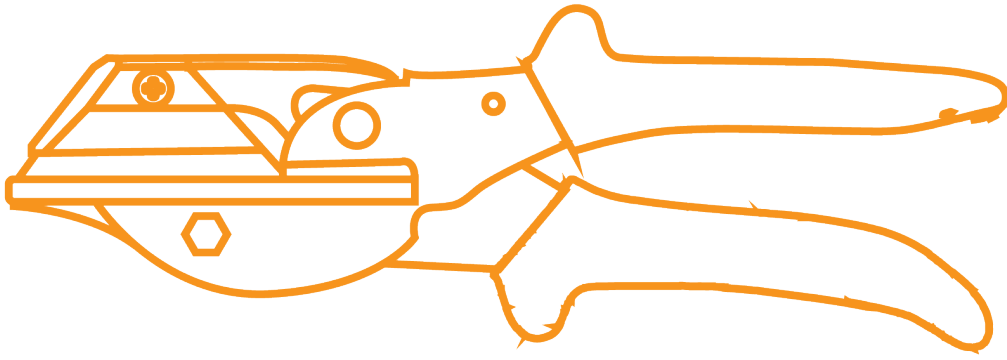
1. Wear **safety goggles** to keep your eyes safe from any bits that might fly off.
2. Hammers come in different types; the claw hammer is the most popular and works in most situations.
3. Start by making your **workspace neat** and tidy. Make sure there's nothing to trip over and that your work surface is steady.
4. Grab the hammer's handle with your hand. **Hold it near the end of the handle**, but not too tight.
5. Put the thing you want to hit or attach in a safe place on your work surface. **Pliers or nail guides are helpful** and can keep little fingers safe and away from where the hammer will strike.
6. Line up the hammer's flat part (the head) with the spot on your thing you want to hit.
7. Swing the **hammer down gently**, using your **hand and arm**. Let the hammer's weight do some of the work.
8. Pay attention to where you want to hit. Try not to hit too hard or too soft.
9. After you hit, keep swinging just a bit to make sure it's a good hit.
10. Do It Again If Needed: If you need to hit more times, keep swinging the same way. Stay in control

and be careful.

11. Look at what you did after each hit. If something needs changing, do it.
12. When you're done, **store the hammer in a safe place**, like a toolbox.

NAIL VS. SCREW

- To secure things, you can use nails. Nails are like pointy sticks. You hit them with a hammer to make them go through one thing and into another.
- **Nails are different from screws. Nails are like metal wedges.** When you hammer them, they push things apart and stay in place because of the compression force.
- **Screws are like spiraled wedges.** They must be turned with a screw driver. They draw two materials closer together, making them tighter. It's like a twisty handshake that holds things together.



6. MITRE CUTTERS

ARE YOU WEARING THE RIGHT SAFETY EQUIPMENT?

Goggles should always be worn when working with any tools that will create dust or cause small particles that can get into your eyes.

DO YOU HAVE THE RIGHT TOOLS?

Miter cutters are great for angles and cutting materials like wooden dowels or basswood strips. They **should not** be used **to cut metal or wires** which will damage the blade and be unsafe to use.

WILL YOU BE SAFE IF YOU START WORKING?

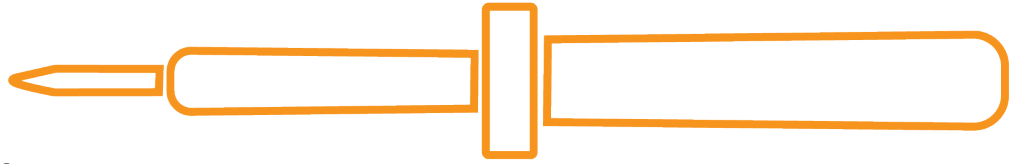
Make sure that there is enough space to work. It's best to cut over a **surface**. Both hands on the handle is safe as long as the **material is stable and secure** on the **plate**. Avoid cutting small pieces. **Fingers** should be kept **away** from the sharp area. The **surrounding area** where you are working should be clear of books and **tidy**.

WHAT IS THE CORRECT WAY TO USE THE TOOL?

1. The hand-held mitre cutter is perfect for cutting dowels and basswood strips. **Make sure it's suitable** for the type and thickness of material you're working with.
2. Begin by setting up a **clean** and **well-lit workspace**. Ensure there are no tripping hazards, and that your **work surface is stable**.
3. Before using the **mitre cutter, check** it for any **damage or loose parts**. Ensure that the **blades are sharp** and in good condition. Remember, it's safer to use a very sharp blade than a dull one. A dull blade requires more effort, increasing the risk of injury.
4. Put on **safety goggles** to protect your eyes from any debris that might fly off during cutting.
5. Place the material you want to cut in the **cutter's jaws**. Make sure it's **positioned securely** and won't shift during cutting.
6. **Determine the angle** you need for your cut. While the mitre cutter may have markings that show angles, always double-check and measure twice to confirm you're cutting at the correct angle.
7. **Measure the precise angle** and length for your cut. Use a pencil or marking tool to mark the

cutting line on the material. Double-check your marks for accuracy.

8. **Position the mitre cutter blades** so they align with the marked cutting line on the material, ensuring it matches the chosen angle.
9. Make sure that **fingers are away** from the sharp area. Both hands can be used around the handle.
10. Begin cutting by **squeezing the handles** of the mitre cutter together. Apply even pressure to make a smooth, controlled cut. Avoid using excessive force.
11. Complete the cut in one continuous motion. Do not stop and start, as this can result in an uneven cut.
12. After cutting, examine the quality of the cut. Ensure it meets your requirements. If necessary, **use sandpaper** or a **file to smooth** any rough edges.
13. Open the mitre cutter's jaws and carefully remove the cut piece of material.
14. When you're finished with the mitre cutter, **lock the blade (see manual), store it in a safe place**, away from the reach of children and in a location where it won't be damaged.



7. SOLDERING IRON

ARE YOU WEARING THE RIGHT SAFETY EQUIPMENT?

Goggles should always be worn when working with any tools that will create dust or cause small particles that can get into your eyes. In this case, there might be some fumes that may irritate eyes. The solder becomes molten. **Gloves are very useful** when using tools that have a hot end. Kits for soldering will have **sponges, pads and other useful tools to** keep the soldering irons working properly.

DO YOU HAVE THE RIGHT TOOLS?

Soldering Irons are **useful for connecting circuits** together. Melting holes into plastic should be avoided. It creates fumes that may be harmful. It also leaves a residue on the tip and prevents the solder from melting.

WILL YOU BE SAFE IF YOU START WORKING?

Helping Hands Soldering Stations are very useful with Soldering Iron guns. They are helpful in preventing accidental burns and improving the final outcome. Ensuring a **stable power supply** is also important.

Power bars with longer cords can prevent soldering irons from falling off the table. Another thing to watch out for is **tripping hazards**. Be sure to be **prepared to treat burns**. If someone experiences a burn, document what occurred and make sure you call home.

WHAT IS THE CORRECT WAY TO USE THE TOOL?

1. Always wear **safety goggles** to protect your eyes. Work in a **well-ventilated area** to avoid inhaling fumes. **Gloves are appropriate** for this tool. It can prevent unwanted burns.
2. Choose the appropriate soldering iron for your project. Make sure it matches the **type of solder** and **the components** you're working with.
3. Clear your workspace of **flammable materials**, and use a **heat-resistant surface** like a soldering mat or ceramic tile. Keep a **fire extinguisher nearby** for added safety.
4. Before use, **check the soldering iron** for any damage, loose parts, or frayed cords. If you find any issues, repair or replace the iron before use.
5. Ensure that the **item** you're soldering **is held securely in a clamp or vise** to prevent movement during soldering.

6. **Clean the soldering iron's tip** with a damp sponge or brass wire cleaner. It should be clean and shiny for efficient soldering.
7. **Plug in** the soldering iron and allow it to **heat up** to the appropriate temperature for your solder and project. Refer to the solder's specifications for the correct temperature.
8. Apply a **small amount of solder to the iron's tip** to coat it. This helps with heat transfer and ensures a smooth flow of solder.
9. **Touch** the soldering iron's **tip to the joint** where you want to apply solder. Heat the joint for a few seconds before applying solder directly to the joint, not the iron. The solder should melt and flow smoothly onto the joint.
10. **Don't force** the soldering iron on any surface. If it's the right temperature, the solder will melt and bind together what you're working on.
11. Ensure that the **solder flows evenly** and creates a shiny, concave joint. If it looks dull or lumpy, you may need to reheat and reapply solder.
12. After finishing your soldering, **unplug the soldering iron** and allow it to cool down on a heat-resistant surface. **Never leave a hot soldering iron unattended.**

13. **Properly dispose** of used solder, **flux residues**, and any waste materials following local regulations.
14. **Store the soldering iron** in a designated, safe location. **Always wrap the cord neatly** to prevent damage.
15. When not in use, store your soldering iron in a way that prevents accidental contact with the hot tip.



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