

Sequence of operations Task

(Exact instructions)

Make a sequence of operations for something of your choice that takes at least 4 steps.

You can make it on the computer or draw it by hand.

It can be about anything: how to make a cup of tea, plant a seedling in the garden, cook your favourite cake or maybe design something new in lego and make instructions for that?

I am sure you can think of more interesting things than me but keep them appropriate for school please.

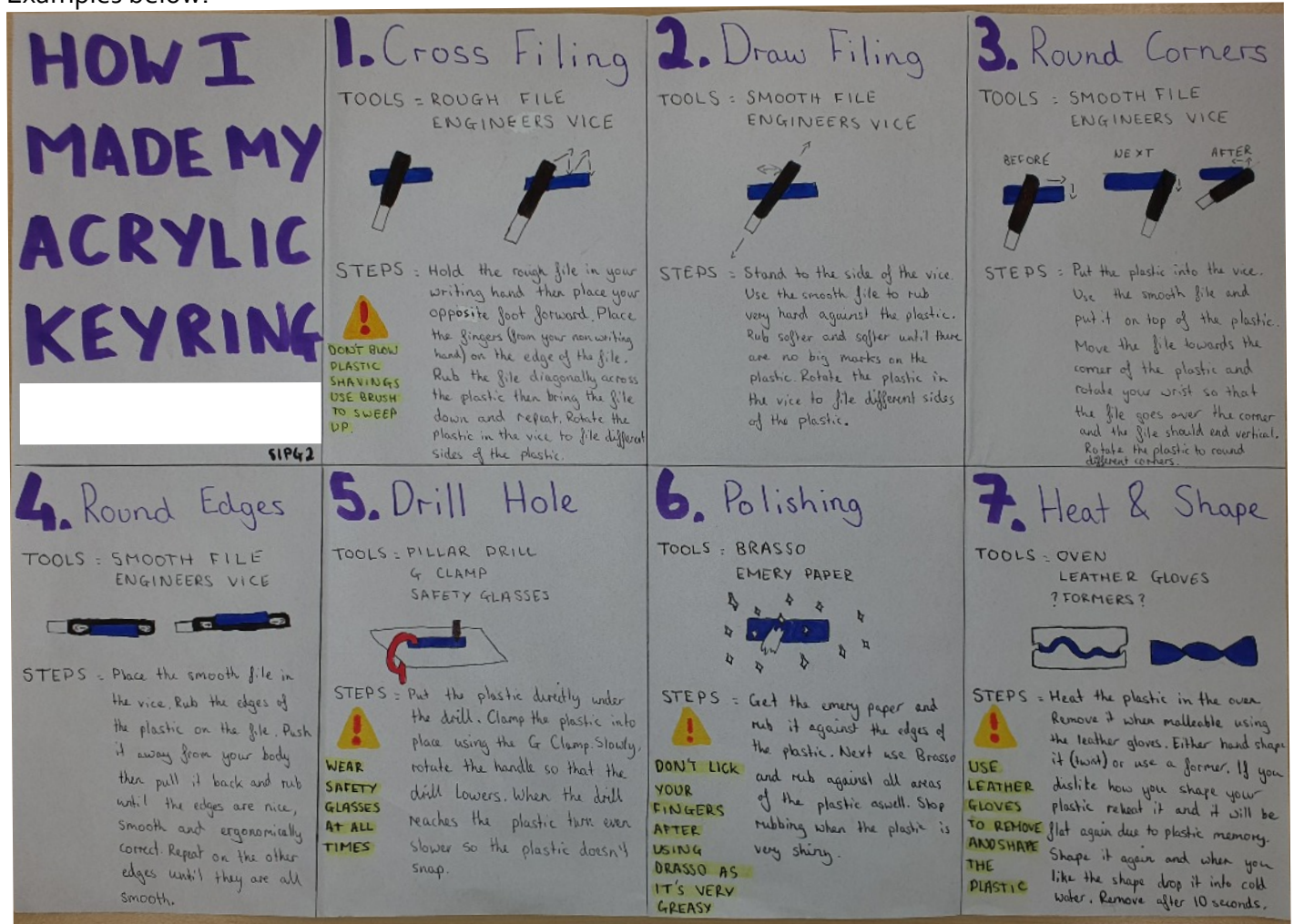
Remember pictures help explain your instructions, watch the YouTube video below to see what can go wrong if you don't explain things well.

Remember a good set of instructions shows the tools needed and how to use them safely and efficiently for each step. It gives clear instructions set out in order. Do a rough draft first then check to make sure you have not missed anything. Also think about the presentation of your work. How can you make the important points/word stand out?


Maybe after you have finished yours, you can test it by asking someone in the house to follow the instructions. Or maybe you could send it to a friend to see if they can do it?


[Click here to watch the PB+J Video](#)  **YouTube**


Examples below:

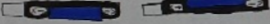


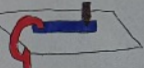
HOW I MADE MY ACRYLIC KEYRING

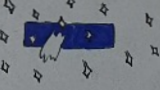
1. Cross Filing
TOOLS = ROUGH FILE
ENGINEERS VICE

STEPS = Hold the rough file in your writing hand then place your opposite foot forward. Place the fingers (from your non-writing hand) on the edge of the file. Rub the file diagonally across the plastic then bring the file down and repeat. Rotate the plastic in the vice to file different sides of the plastic.
! DONT BLOW PLASTIC SHAVINGS USE BRUSH TO SWEEP UP.

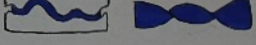
2. Draw Filing
TOOLS = SMOOTH FILE
ENGINEERS VICE

STEPS = Stand to the side of the vice. Use the smooth file to rub very hard against the plastic. Rub softer and softer until there are no big marks on the plastic. Rotate the plastic in the vice to file different sides of the plastic.

3. Round Corners
TOOLS = SMOOTH FILE
ENGINEERS VICE

STEPS = Put the plastic into the vice. Use the smooth file and put it on top of the plastic. Move the file towards the corner of the plastic and rotate your wrist so that the file goes over the corner and the file should end vertical. Rotate the plastic to round different corners.

4. Round Edges
TOOLS = SMOOTH FILE
ENGINEERS VICE

STEPS = Place the smooth file in the vice. Rub the edges of the plastic on the file. Push it away from your body then pull it back and rub until the edges are nice, smooth and ergonomically correct. Repeat on the other edges until they are all smooth.

5. Drill Hole
TOOLS = PILLAR DRILL
& CLAMP
SAFETY GLASSES

STEPS = Put the plastic directly under the drill. Clamp the plastic into place using the G Clamp. Slowly, rotate the handle so that the drill lowers. When the drill reaches the plastic turn even slower so the plastic doesn't snap.
! WEAR SAFETY GLASSES AT ALL TIMES

6. Polishing
TOOLS = BRASSO
EMERY PAPER

STEPS = Get the emery paper and rub it against the edges of the plastic. Next use Brasso and rub against all areas of the plastic as well. Stop rubbing when the plastic is very shiny.
! DONT LICK YOUR FINGERS AFTER USING BRASSO AS IT'S VERY GREASY

7. Heat & Shape
TOOLS = OVEN
LEATHER GLOVES
? FORMERS?

STEPS = Heat the plastic in the oven. Remove it when malleable using the leather gloves. Either hand shape it (twist) or use a former. If you dislike how you shape your plastic reheat it and it will be flat again due to plastic memory. Shape it again and when you like the shape drop it into cold water. Remove after 10 seconds.
! USE LEATHER GLOVES TO REMOVE AND SHAPE THE PLASTIC

Sequence of

Operation

Rules

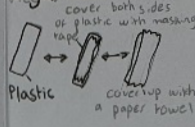
- Wear apron
- Wear safety glasses if told to
- Tie long hair back
- Take off big earrings
- Tuck in tie
- Bag under bench (coat on peg)
- Don't play with machines
- Don't touch tools until told to

Tools you need

- Thermo/acrylic plastic
- Paper towel
- Engineers vice
- Flat file (rough and smooth)
- Pillar drill
- G clamp
- Twist drill
- Emery board
- Polish
- Brasso
- Leather gauntlets
- Formers (not needed)
- Oven

Step 1: CROSS FILING

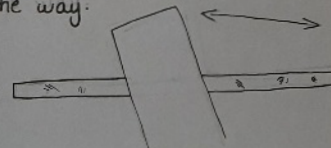
Take your piece of acrylic plastic and a rough file. Cover your plastic with masking tape on both sides of the face and place your plastic in a paper towel. Then place your plastic in the engineers vice!



Take a rough file and place your palm at the edge of the file. Press the file hard on the piece of plastic and move it forward and back.

Step 2: DRAW FILING

After you are happy with the shape of the plastic, take a smooth file and do the same as with the rough file just across the way.



This process is called draw-filing. This process makes the scars from the cross filing smaller.

Step 3: ROUNDING CORNERS

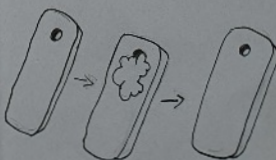
Use the smooth file again, turn your piece of plastic vertically on the engineers vice. not too far out though or your plastic will snap! Once you've got the position right, start moving the file while slowly turning it down the corner. This will make your piece more aesthetically pleasing and ergonomically correct.

Step 4: DRILLING THE HOLE

Next step you take your piece of plastic and go over to the pillar drill. Take a G clamp and tighten it to secure the piece of plastic. Put on safety glasses and safety shield. Press and turn the button to turn drill on and start lowering the drill. When it gets closer to the plastic, move it down slower.

Step 5: POLISHING *10 mins

When you've drilled the hole, you take Brasso and start wiping it on the whole piece of plastic to polish it.



After you've polished every side wash it properly with water and soap and dry it with a paper towel. Start heating the oven for about

Step 6: SHAPING *Keychain!

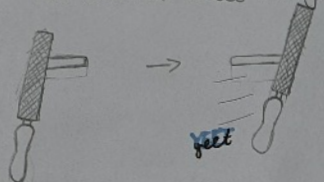
After the oven has been heated up for at least 10mins, place in your plastic for at least 5mins. Take your leather gauntlets and take out your piece of plastic, which you should be able to flex into any shape. If you like, you can use formers or not. If you don't like how it's shaped you can always put it back in the oven and it will turn back into a straight piece of plastic. When this happens it's called plastic-memory. And that is how to make a keychain!

How I CREATED My KEYCHAIN! AND THEN IT DISAPPEARED.

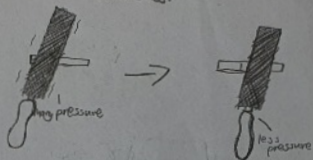
First of all, I gathered some resources: An apron, acrylic plastic, paper towel, rough file, engineers vice and masking tape.

I folded my paper towel in half, twice, and placed my acrylic, which had masking tape on its faces, into the paper towel. I then placed it in the vice and took my rough file and pressed it on the left side of my acrylic and moved it across to the other side while lightly moving it forward at the same time.

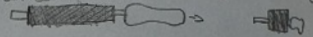
This is called Cross Filing.



Next, I got a smooth file and I pressed it onto my acrylic, then I moved it across, like with the rough file, and put less and less pressure. This removes any extra marks or scratches.

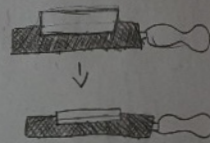


Now, use the same file and hold it to the corner of your acrylic and file horizontally but moving your file around the corner as you file it. This is to make your keychain aesthetically pleasing & ergonomically correct.



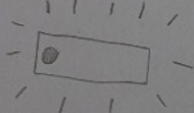
Now, I place my smooth file into the vice and hold my plastic in two hands. Then I pressed it onto the file and rocked it forwards and backwards. Once it's perfectly rounded I can stop.

ROUND!



Now I draw a dot where I want my hole for the keyring to be. Then I go with my friend to the pillar drill. I roll up my sleeves and tuck in my tie and put on safety glasses.

My acrylic is held on the pedestal by a G clamp that is quite firmly clamped. We close the plastic guard, make sure long hair is tied back, and then pressed the button to turn on the drill. One of us slowly pulled the lever down until the hole was fully drilled, then we pulled the lever back up and turned off the drill.



Peel your masking tape off the acrylic and make it a little bit wet. Now put a small piece of emery board and lightly wipe the acrylic to remove small scratches. Go to the Brasso and polish the entire acrylic to really make it shine. And before you do that, make sure no sticky residue is on the acrylic. Now go thoroughly wash your acrylic in water and soap.

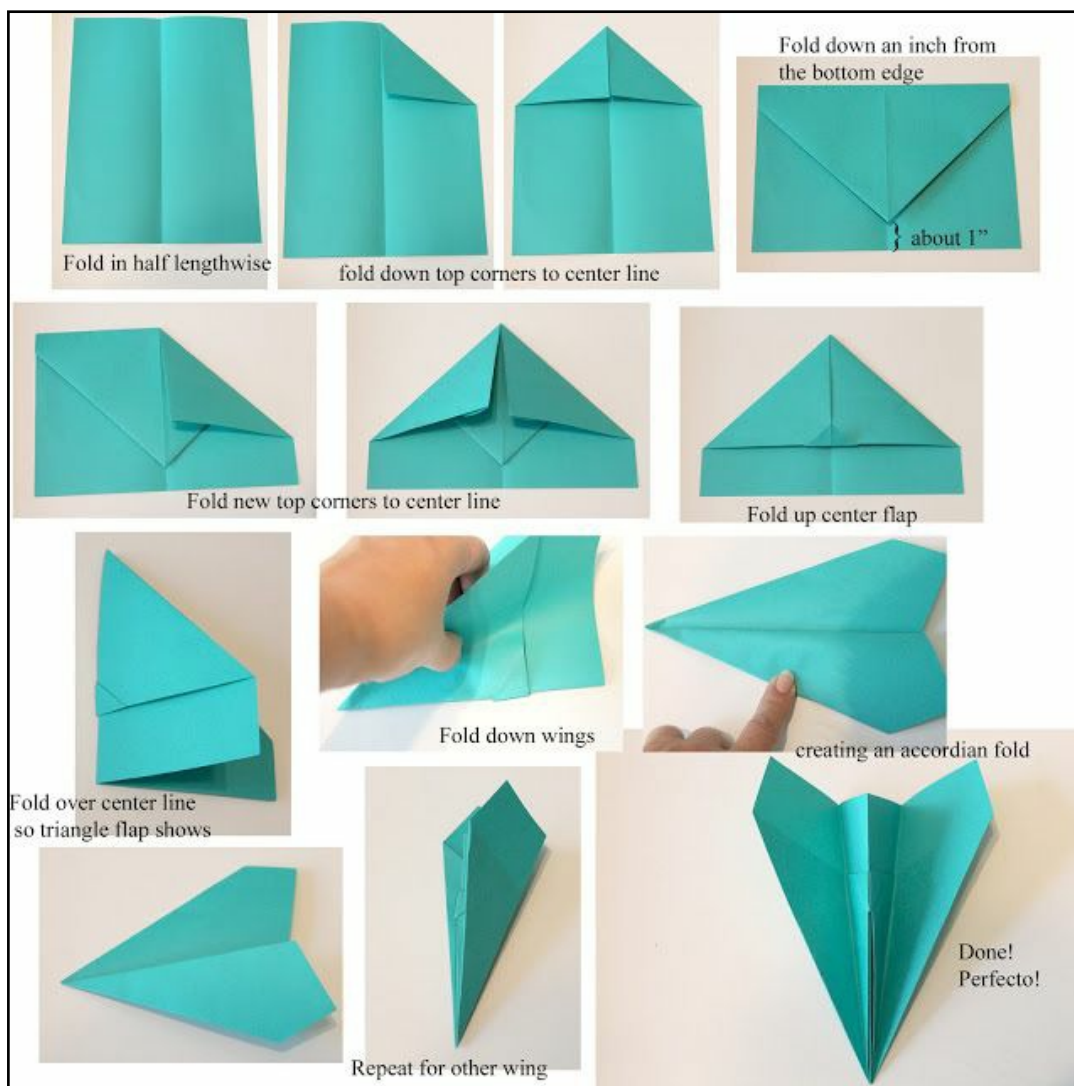


Your plastic is a **Thermoplastic**! This means that you can shove it in an oven and then mold it! So, go put your acrylic into the oven, and because it's malleable, you can mold it into anything you want. Your plastic also has memory. If you don't like the shape then you can put it back into the oven and it'll go back to its original shape. You have former plastic, which means that now you can try another way to mold it.



...but then mine disappeared. Okay then.

IT FIZZLED OUT OF EXISTENCE.



**Is this enough
written instructions?**

**The 2 contrasting
colours make it easy
to know which piece
of rope they are
talking about**

Fisherman's Knot Tying

