Sheet Metal Notepad Holder Checklist and Rubric Name:_____

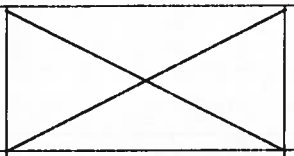
Period: _____

Below is a checklist of items that must be completed in order to produce a successful sheet metal notepad holder. Once a specific step has been demonstrated by Mr. Edgerton and you have completed it yourself, please see Mr. Edgerton to sign off on each step before moving on to the next step. This will assure that you are on the right track.

Step #	Step Procedure	Teacher Initials	4 points	3 points	2 points
1	Cut sheet metal using foot operated shear to 10" long		Sheet metal cut exactly 10 " long.	Sheet metal cut within 1/8" of 10" length.	Sheet metal cut over 1/8" short//long.
2	Measure in ½" on each side and use a scratch awl to make a line on the metal. **Make sure these lines are straight.**		Measured exactly ½" from both sides. Scratch awl lines are straight and even.	Either ½" marks are off **OR** lines are not even and straight.	Not ½" in from each edge **AND** marks/lines are not straight.
3	Place metal under edge of brake so that scratch awl line is aligned with front edge of brake. Clamp down using handle. Bend metal edge upward, creating a crease. Release handle and remove metal.		Bend is nice and straight along ½" marking lines.	Bend is fairly straight along marking lines. There is a slight taper.	Bend is extremely crooked/not even and straight, almost to the point that you may need to restart.
4	Turn metal over and place back under the brake edge. Clamp down handle. This will flatten the creased edge into a hem. Repeat steps 3 & 4 for other side.		Bent hem is straight and even along entire edge of metal for both sides.	One hem/side is not straight for the entire length of the side.	Both hems are not straight/ taper from one end to the other.
5	With the hems face up, measure in 2" from one end and create a line using the scratch awl. **Make sure this line is straight.**		Created a straight line using scratch awl, 2" from one end of the sheet metal.	Line within 1/8" of 2" margin **OR** line is not straight and even across metal.	Line is more than 1/8" away from 2" margin and line is not straight and even across metal.
6	Measure 1" below the 2" line and make a line with scratch awl.		Line is accurate and straight.	Line is not accurate **OR** line is not straight and even.	Line is not accurate **AND** line is not straight and even.

7	Measure in 1" from both sides along the previously made line. Make a mark with awl. Where these cross will be the center point for drilling.		Measured accurately in 1" and made marks with awl for center points.	Incorrectly measured 1" marks **OR** did not mark center points with awl.	Incorrectly measured 1" marks **AND** did not mark center points with awl.
8	Using the drill press with spiral bit, hold the sheet metal flat on the table and drill both holes. **Make sure you hold the metal down tight!**		Safely and properly drilled both holes in correct locations using drill press. Sheet metal did not move/spin.	Sheet metal not drilled in correct locations **OR** sheet metal moved/spun.	Sheet metal not drilled in correct locations **AND** sheet metal moved/spun.
9	Measure a 6" long piece of band iron and mark using scratch awl.		Accurately measured and marked 6" long band iron.	Measured and marked band iron within +/- 1/8" of the 6" length	Band iron was over 1/8" short or long from the 6" length.
10	Clamp band iron in a bench vise and cut on your line/mark using a hacksaw.		Properly clamped band iron in vise and made a straight cut using hacksaw.	Band iron not properly clamped **OR** not cut straight.	Band iron not properly clamped **AND** not cut straight.
11	Transfer holes from sheet metal onto band iron piece.		Holes transferred successfully using marker or awl and even within band iron.	Holes transferred but not even within band iron.	Holes are way off center in band iron.
12	Clamp band iron in bench press vise and drill with spiral bit. **Make sure to put some oil on the metal before drilling and drill slowly.**		Properly clamped in vise and drilled with spiral bit on specified locations.	Properly clamped in vise and drilled with spiral bit but not in specified location/s.	Unsafe/improper use of drill press in order to drill holes in bad iron.
13	Measure/mark, clamp and cut 1.5" piece of hollow square tubing using hacksaw.		Measured and cut 1.5" piece of tubing. Cut is straight.	Tubing is within 1/8" of 1.5" target length.	Tubing cut more than 1/8" short/long from 1.5" target length.
14	Place sheet metal under brake so that the 2" mark line previously made is under the edge. **The 2" side should be away from you, under the edge of brake.**		Sheet metal placed properly under brake fingers. Metal mark is straight and aligned with fingers.	Sheet metal is close to straight alignment with fingers.	Sheet metal randomly placed under brake fingers any way student felt would work.
15	Bend sheet metal up just past vertical/90 degrees.		Sheet metal bent just past 90 degrees	Sheet metal bent too far/not far enough. May interfere w/ screws	Sheet metal bent way too much- it will interfere w/ screws.

16	File edges of sheet metal, band iron and square tubing to remove burs.		All edges are filed smooth. No burs are visible.	Some edges are smooth yet there are still some unsafe edges.	Edges do not look filed at all. Very sharp and unsafe.
17	File inside of holes and square tubing using files.		Burs and sharp edges removed from holes and inside tubing.	Some edges are still sharp/ have burs.	All edges are still sharp
18	Sand the band iron with sand paper to remove dirt. Wipe down with paper towel to remove dirt.		Band iron sanded and all dirt is removed. Wiped down with paper towel to remove dirt.	Band iron sanded a little but still has dirt. This will cause solder not to stick.	Band iron not sanded at all.
19	Clamp band iron into a bench vise so that only about 1.5"-2" is in clamp. Using the small brush, apply some flux to both the band iron and tubing. **This helps to clean the metal so solder will work. Caution: Do not walk by and get caught/ cut on metal sticking out from vise.**		Band iron properly placed in bench vise. Applied flux to both the band iron and end of tubing.	Failed to do one of the following: • Properly clamped band iron in bench vise • Applied flux to band iron • Applied flux to end of tubing	Failed to do two or more of the following: • Properly clamped band iron in bench vise • Applied flux to band iron • Applied flux to end of tubing
20	Place square tubing on top of band iron, somewhere in between the 2 holes. Using the gas torch and solder, attach the square tubing (pencil holder) to the band iron. **Do not touch as the torch and metal will be very hot!!**		All of the following were done: • Tubing properly placed onto band iron. • Tubing properly soldered to band iron	One of the following not done: • Tubing properly placed onto band iron. • Tubing properly soldered to band iron	Both of the following not done: • Tubing properly placed onto band iron. • Tubing properly soldered to band iron
21	Remove from vise using pliers to hold metal instead of your hand. Place metal under cold water at the sink.		Properly removed from vise using pliers and ran under cold water.	Did not use pliers when handling **OR** did not run under cold water.	Did not use pliers when handling **AND** did not run under cold water.
22	Steel wool the sheet metal, band iron and square tubing. **This will clean/rough up surface for paint to adhere to.**		Used steel wool to clean all metal pieces.	Used steel wool on 1 of the 3 metal pieces.	Used steel wool on none of the metal pieces.

23	***Spray paint the sheet metal, band iron/tubing, and screw heads using a color of your choice for extra credit.***		***You will receive an additional 15 points as extra credit if you neatly spray paint the sheet metal, band iron with pencil holder and screw heads. I should not see any drips/runs. Use a few light coats of paint and do not hold spray can close to metal. Keep about 12" away and do not keep in one spot.***		
24	Bring in any notepad paper to use in your project. See my example.		Brought in a notepad to use in holder.		Did not bring in a notepad to use in holder.
25	Assemble notepad holder together using two screws/nuts.		Properly assembled notepad holder.	Notepad partially assembled.	Notepad not assembled. Pieces are individual.
26	Student cleaned up at the end of each period.		Student cleaned up every day.	Student helped clean most days.	Student watched classmates clean up.
Total Score					