

Major Safety Test

Metal Technology

Name: _____

Total: _____ / 141

Date: _____ Block: _____

Read this first: If a question has 2 blanks (_____) it means the answer has 2 words to get the 1 mark. If the question has 3 blanks (_____) it means the answer has 3 words to get the 1 mark and so forth.

General Shop Rules

/14

1. Before you use any machine in the metal-shop you must obtain your _____.
2. To protect your eyes you must wear _____.
3. _____ is not allowed in the shop
4. Always pay _____ to what you are doing on the machine
5. Do not _____ the operator
6. Know what to do in case of an _____
7. Tuck in loose _____, Remove _____ and tie back _____ to prevent it from getting caught in the machinery
8. Keep the floor and work areas _____
9. If you feel unsafe about a particular activity, consult with you _____ before proceeding
10. Always check with your _____ before using any substance that may be _____
11. Inform _____ in any and all types of emergencies

Tools and Materials

/10

1. Always _____ your work with a _____ so it will not slip or move
2. Take the time to get the right _____ for the job. Using the _____ improperly can lead to frustration, injury or damage to the _____ or work.
3. Always lift with your _____ not your back
4. Always carry _____ with the pointed end facing _____
5. How do you store flammable or combustible materials: _____

6. Whose help do you ask for if you are unclear about how to use something safely? _____

Power Tools

/9

1. Use only tools that are in _____
2. Always _____ or _____ a machine before doing any maintenance work
3. The machine operator must be qualified and have the _____ permission
4. Only the _____ is to turn on the tool
5. Do not walk away from a machine until it has come to a _____ stop
6. Make sure all the _____ and safety devices are in place and functioning properly

7. Always wear _____ if there is any chance of injury or irritation of the eye
8. What should you check before plugging in a power tool? _____

Drill Press

/13

1. After changing the drill bit make sure the _____ is clear before starting the drill
2. _____ down work to be drilled or hold in a _____
3. Always wear _____ to protect your eyes
4. How do you prevent blowout or prevent unwanted holes in the drill press table? _____
5. Tie _____ back
6. Remove all _____ and/or _____ that could get caught in the drill press
7. _____ hard materials before you drill them.
This will help prevent the drill bit from slipping around as you try to start the hole
8. The _____ of a drill bit should not be clamped. Ensure the _____ is held securely in the chuck so drill bit does not vibrate loose
9. _____ or _____ machine whenever changing drill bits to avoid injury

Dremel/Hand Drill Safety

/6

1. _____ your stock before drilling or hold in a _____
2. Only use bits that are properly _____ and _____ in the chuck

3. Wear _____ to prevent injury to your eyes and
_____ to prevent damage to your hearing

Welding Safety

/13

1. Welding can burn or shock you. Wear _____
to protect exposed skin from welding spatter and UV rays, and wear
_____ to protect your hands from burns and shock
2. _____ is a good conductor and could cancel out protective
qualities of your clothing and gloves. Only work in a dry work area!
3. The light from welding is bright enough to damage your _____
permanently. Wear approved welding helmet with a # _____ lens or
darker for mig/tig/arc welding.
4. Wear _____ when chipping, brushing or grinding
your welds
5. Welding can produce harmful fumes. Make sure you have effective
_____ to clear away the fumes
6. Never weld a container that has held flammables unless it has been
_____ or is filled with _____. Vapours or
fumes from solvents, fuels or other flammable liquids can be
_____.
7. You should always assume that everything in the welding area is
_____ so wear _____ on hands and/or use
_____ to lift or move materials

Oxy-Acetylene Torch Safety

/11

1. Open cylinders slowly, _____ turn at a time
2. Always wear _____ and _____

3. Ensure proper _____ in case of harmful vapours or fumes from galvanized metal, brass or bronze etc. This includes shop fans or respirators.
4. Suspect everything in a welding are of being _____
5. Never weld where _____ may be present in case of explosion
6. Always light with a _____, _____ gas first
7. Be conscious of where you are pointing the _____.
8. _____ before _____ or up you go!

Bench Grinder Safety

/13

1. Inspect the grinder prior to use to ensure there are no _____ in the abrasive disc
2. Check there are no _____ in the area of the grinder.
Sparks can ignite!
3. Only grind on the _____ of the stone, never on the side
4. Avoid grinding _____. They could easily be pulled out of your grasp and cause problems/danger
5. Do not grind either _____ or soft metals like _____ or _____. They can easily get caught or plug up the stone
6. Grinding generates a lot of _____ in the metal. _____ regularly and take care not to burn yourself.
7. _____, _____ and _____ are required when using the bench grinder

Right angle grinder safety

/7

1. Inspect grinder to ensure no _____ in the abrasive disc
2. Ensure the _____ is properly in place and never remove it
3. _____ stock before grinding it
4. Avoid shooting _____ through the air and endangering others
5. Wear _____ and _____ and _____ to protect from burns or other injury to ears, eyes and body.

Buffer/Wire Wheel Safety

/4

1. The biggest danger on the buffer or wire wheel is having the wheel _____.
2. Hold your work against the wheel just below the _____. If the wheel should grab it, it will throw it _____.
_____.
3. Be sure to wear _____ in case strands of wire come loose from the wire wheel

Metal Cut Off Saws Safety

/8

1. Make sure the stock is tightly _____ before starting your cut. If it isn't the blade will grab it and roll it around
2. Keep your _____ clear of the path of the blade at all times
3. Do not _____ the cut. This could overload the machine or damage the blade
4. Never use your _____ to clean metal chips or filings from the saw or your material. Metal slivers really hurt or could burn you! Use a _____ to clean metal chips or filings
5. Wear _____ and _____ for ears and eyes

6. Wear appropriate _____ when handling the stock

Metal Lathe Safety

/10

1. Make sure stock is _____ and locks are _____ before turning on the lathe. This will prevent the material from _____ when you start to cut it
2. Never leave the _____ in the chuck. Leaving it in the chuck will lead to an accident
3. Material that extends more than twice its diameter out of the chuck should be supported by the _____ to prevent flex and a hazardous situation
4. Use extreme caution if your stock extends through the _____ end. It is easy to injure yourself if you fail to notice the protruding end
5. Tuck in any _____ to prevent it from getting caught in the feed and lead screws which are right by your hips
6. Wear _____ to protect your sight from flying metal
7. Wear appropriate _____ when handling stock but not when operating the lathe
8. Ensure the stock has stopped _____ before attempting to handle it

Foundry/Kiln operations

/4

1. Wear _____, _____, and _____ to avoid burning your eyes, hands, or body when opening a recent casting
2. Do not adjust the kiln or oven unless the _____ has given permission

Chemicals, combustibles, toxic and hazardous substances safety /9

1. How do you store flammable or combustible materials: _____

2. Tell _____ if any container or bottle is missing its label or not in original container.
3. Before handling any hazardous substances ensure you are wearing proper protective gear such as _____, _____, and _____
4. Follow all _____ for safe use
5. Some cylinders can explode if dropped or heated. Keep cylinders away from _____
6. Always work in a _____ area or wear a _____ to protect your lungs

Choose the best answer and place in the correct space provided. You may use each answer more than once. Some answers might not be answers at all!

- | | | |
|---------------------------|------------------------|--------------------------|
| • Sparks | • Clean | • power switch is off |
| • Oxygen | • Hair | • steam cleaned |
| • Acetylene | • Hands | • cool your material |
| • Water | • Dangerous | • grab your work |
| • 10 | • Legs | • Ignition sources |
| • 8 | • Lips | • Explosive |
| • 4 | • Flutes | • Down and away from you |
| • Ventilation | • Shank | |
| • Ventilated | • Shaft | |
| • Striker | • Scrap Wood | |
| • Unplug | • Small Pieces | |
| • Lockout | • Emergency | |
| • Turn Off | • Clothing | |
| • Half | • Jewelry | |
| • Force | • Hearing protection | |
| • Brush | • Protective clothing | |
| • Flying | • Respirator | |
| • Spinning | • Leather gloves | |
| • Rotating | • Gloves | |
| • Procedures | • Welding goggles | |
| • Tight | • Welding mask | |
| • Sharp Objects | • Full face shield | |
| • Instructor | • Leather apron | |
| • Instructor's permission | • Loose clothing | |
| • Operator | • Clamped in place | |
| • Horseplay | • Secure | |
| • Eye protection | • Middle Point | |
| • Attention | • Brass | |
| • Distract | • Aluminum | |
| • Cracks | • Sheet Metal | |
| • Torch | • Clamp | |
| • Hot | • Tool | |
| • Flammables | • Center Punch | |
| • Sharpened | • Vice | |
| • Strings | • Chuck Key | |
| • Pliers | • Tailstock | |
| • Guards | • Headstock | |
| • Complete | • Fire Proof container | |
| • Away | • good working order | |
| • Hold | | |
| • Eyes | | |
| • Face | | |