

# Carbonization checklist & documentation form

## Materials & Equipment

✓	What	Why	Where (potentially)
	modified oil drum + lid	carbonization kiln	D-lab storage
	sand in bucket	sealing drum	D-lab storage
	3 bricks or large rocks	raising drum	borrow from Kresge
	long piece of wood	loading material, lowering drum	D-lab 2x4
	raw material to be carbonized	duh	D-lab storage, farm
	easily combustible material (corn husks, newspaper)	starting fire	
	fire starter (matches, lighter)	starting fire	D-lab
	food to cook (eggs, tofu pups)	make fire legal	LaVerde's
	watch	documentation	your arm, cell phone
	dustpan and brush	collecting sand	D-lab
	scale	weighing charcoal	
	thermometer & humidity sensor	documentation	D-lab

## Procedure

*Throughout burn, record information on reverse*

1. Place oil drum in desired area, propped up a few inches off the ground by three bricks.
2. Place the long piece of wood in the center of the oil drum.
3. Load drum with raw materials
4. Put combustible materials in holes located in bottom of the oil drum as a fuse to light the material.
5. Remove long piece of wood from the drum. (Creates a passageway for air and room for the extra matchstick to reach the material in step 6.)
6. Light Fuse; throw in an extra matchstick in the top of the drum for good measure.
7. Wait for smoke to start billowing.
8. Light volatiles in smoke by throwing more matchsticks in; sometimes the volatiles will light by themselves.
9. Cover the oil drum with its lid.
10. Lift the drum off the bricks using the long piece off wood and place the drum onto the ground.
11. Seal the bottom of the oil drum by placing sand around the bottom rim of the drum. Seal the top of the oil drum by placing sand around the lid of the drum.
12. Place bricks on top of lid to ensure drum is completely sealed.
13. Wait two hours for carbonization process to complete.
14. Bring oil drum back to D-Lab. Collect sand and pour back into orange bucket. Clean up area.

**Burn documentation**  
*use one form for each burn*

Date: \_\_\_\_\_

Location: \_\_\_\_\_

Air temp (°F) \_\_\_\_\_ Humidity \_\_\_\_\_

Raw material used & source:  
 \_\_\_\_\_

**Burn attendees**  
 list person filling out form first

Weight of raw material used: \_\_\_\_\_ lbs or kg

Combustible material used (newspaper, corn husks, etc): \_\_\_\_\_

**How did you light the fire?**

matches     lighter     lighter fluid     other: \_\_\_\_\_

**Record the time for each of the following:**

time fire was lit		time smoke started billowing	
each time volatiles lit unsuccessfully		volatiles lit successfully <input type="checkbox"/> by hand <input type="checkbox"/> by fire	
time oil drum was covered with the lid		time drum was lowered to ground	
drum sealing complete		drum opened	

**Weight of carbonized material left:**

\_\_\_\_\_ lbs or kg

**Visual estimate of carbonization quality:**

% ash \_\_\_\_\_    % un-carbonized \_\_\_\_\_

**Other carbonization quality notes:**

**Note any deviations from standard procedure:**

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