

Make your own charcoal

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A Step-by- Step Guide

Charcoal is one of the oldest and most easily sourced varieties of carbon black. Wood is very rich in carbon but there are other elements in there, principally, hydrogen and oxygen but other stuff [including sodium etc.]. The process of making charcoal – pure carbon – from wood requires what is known in chemistry as a reducing environment. Burning things in the open air occurs in an oxidising environment and in this situation, oxygen and other stuff is not removed from the wood. Potters will be familiar in the difference in these two atmospheric environments. If you have access to a potter's reducing kiln, you could just char your wood in there and you're done. However, this recipe tells you how to make this artists' material without any specialist equipment. Reducing or charring takes place in an oxygen-free atmosphere. Traditional charcoal burning takes place in bonfires covered in wet turf which will keep the oxygen out. This of course is large scale production. However small batches of charcoal can be made in a very simple reducing 'kiln' at home.



A reconstruction of a charcoal kiln at the Eden Project.

You will need:

- Some straight twigs of wood, ideally willow (*Salix* sp.). Other woods will also work well, and it is worth experimenting. Collect your twigs from fallen wood. I would advise against using twigs from tree rich in resins, such as pines, eucalyptus, acacias etc. as the resin too will char and also create a lot of gasses during the charring process [NB: resin chars have use as a pigment. Kauri gum from trees indigenous to New Zealand - and the nearest living plant resin to amber – was charred and the resulting carbon ground and used as tattoo (*moko*) ink]. But I digress. Choose twigs that are

thicker than you want you sticks of charcoal to be, as they will shrink during the process. If you can be bothered, peel the bark off the twigs with a sharp knife. This will improve the quality of the charcoal, but it is a faff.

- A metal box with a tight fitting lid. A small biscuit tin is ideal, as are cough sweet tins or those tins you get 'travel sweets' in. This is your reducing kiln.
- A fire. You can use a barbecue or a bonfire in your garden, but you can also use your house fireplace (make sure you know your chimneys are working properly before you try this though).

Instructions

- Clip the twigs into regular sized pieces using a pair of secateurs. This gives nice, clean ends to the pieces of charcoal too.
- Pack the twigs into the tin and close the lid. If the lid is not tight fitting, or liable to spring open, wrap some wire round it and secure the ends by twisting them together with a pair of pliers.



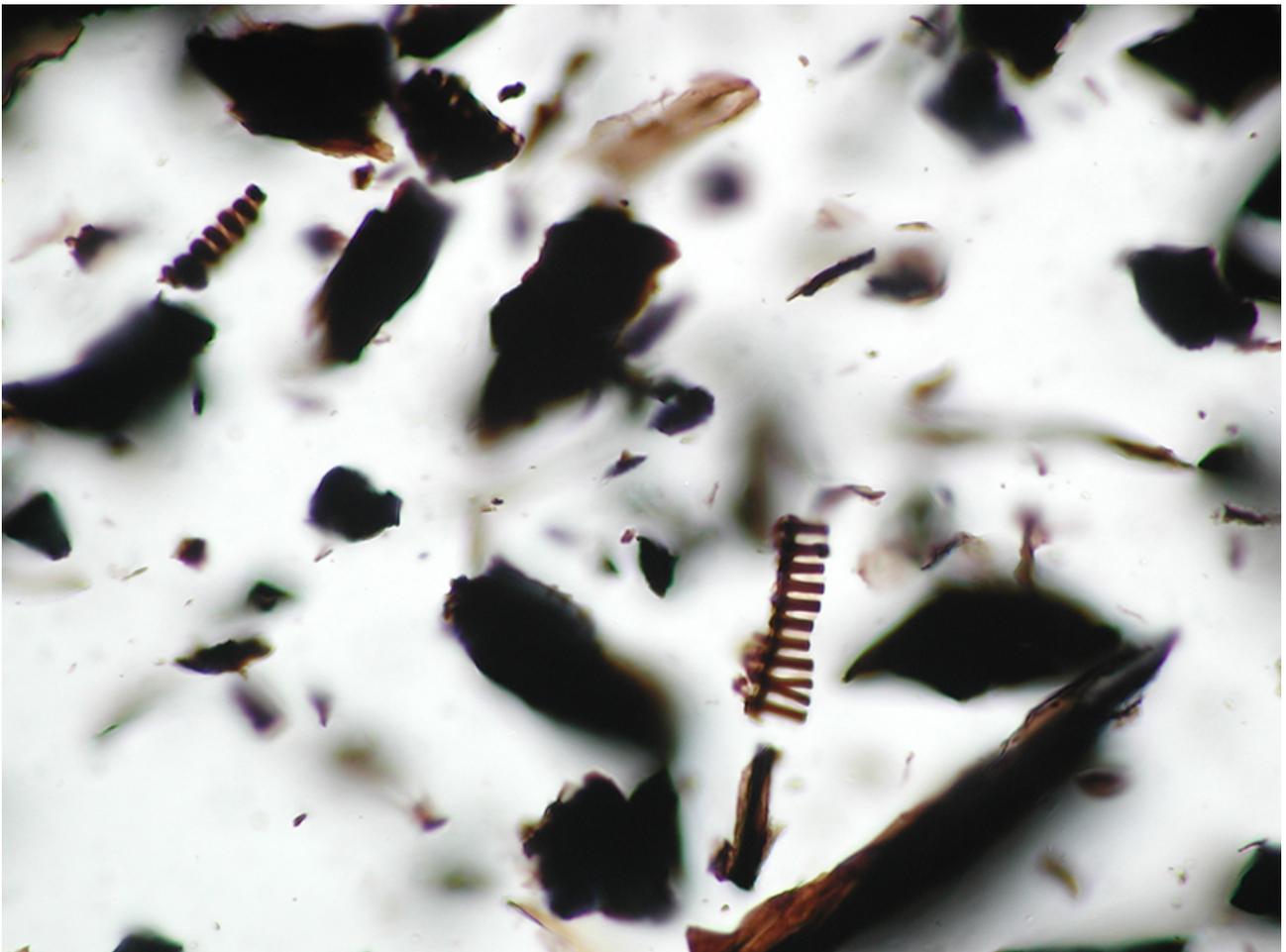
- Start a fire. You need to get it well established before you start charring. Make sure coals or wood are glowing and red.
- Using a pair of tongs, place the tin into the heart of the fire.
- Allow the fire to burn for a further hour.
- After about an hour, remove the tin from the fire and place somewhere where it can safely cool. Do not be tempted to open the box straight away as the charred wood can catch fire and oxidise when exposed to air.
- Leave the tin to cool. This takes around half an hour, but don't rush this process. Allow it to cool slowly and naturally.

- Once cooled, you can open the box and you will have charcoal. The twigs may have warped but it will still work (to be honest, removing the bark will probably keep the twigs more straight).



You're now ready to use this for drawing. The type of wood you use will affect the brittleness of the charcoal, but this needs handling with care.

NB: You can also grind the charcoal and use it as a carbon black pigment.



Wood charcoal under the microscope (x 400, plane polarised light).
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