A HORNSEY WOODCRAFT FOLK GUIDE TO OUTDOOR SKILLS

WRITTEN AND ILLUSTRATED BY KATE ANDERSON
In 2012 the Hornsey Woodcraft Folk were allocated funding by Awards for All, The Big Lottery Fund, to carry out Bushcraft and outdoor education training for Elfin, Ventures, Pioneers and leaders in our district.

Over a year of training days and bushcraft camps we improved our knowledge of the outdoors and learnt the ancient art of Bushcraft in a practical setting. We saw young people gain confidence, learn new skills, and have even more fun on camp!

This booklet draws together some of the skills and activities we learnt, and can be used as a guide for leaders to run activities with your groups in the future.

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Part 1 - Fire Basics

Wooding

key concepts for collecting fire wood

- Only use dead wood on a fire. Wood is dead if it ‘snaps’ easily and loudly. Listen for the crack.

- If wood bends but does not snap, it is alive and should not be used for fires (green wood). Key indicators are green tinged bark and stringy fibers. Never forcefully strip wood from a tree – it is not dead.

- Wood should be dry. A fire cannot be lit with wet/damp wood, and will smother or create smoke on lit fires.

- Collect wood from sheltered areas away from rain exposure and leaves. Mud/moss indicate damp wood.

- Collect ‘dead wood standing’; wood that is dead but still attached to tree; often preferable as not exposed to ground moisture. Look for dark, brittle branches hanging differently to green leafy sprouts.

- Finding and collecting firewood in wet conditions: dry wood can be found in sheltered areas such as under holly bushes. Store wood under shelter for use on wet camps.

- Organize your wood pile; sort ranging from small to big on groundsheets. Key to accessing wood during fire lighting and cooking.

- Always cover wood pile with ground sheet, particularly at night in case of rain.
Top tip
Go woodling straight after tents are up on camp. Collect wood for evening meal and breakfast the next day (at least).

Kindling & Tinder
Essential fire lighting materials

- Tinder is highly flammable material used with a spark to light fires (birch tree bark, cotton wool, charred cloth, dry grass, bark shavings).

- Kindling is a combustible material used with tinder to start a fire. E.g. bark shavings, small twigs, hay, wood shavings, bark scratching’s, dry leaves.

Birch kindling
(activity)

Materials - Birch wood
Equipment - Bushcraft knife

1. Dead Birch is great to collect small kindling strips from. Do not take bark from live trees.

2. Use knife to score a rectangle outlining area of bark to be removed.

3. Peel bark away from log and leave to dry.

Top tip
Keep ‘emergency’ kindling tin on camp. Stack with dry birch bark, small twigs, matches, lighters, fire steels etc. Waxy dead holly leaves make great kindling in wet conditions.
Fire prep

Before you light your fire..........

- Find a dry, open area with little risk of fire spreading (away from trees, dry leaves/grass).
- Consider how rain affects site – dipped ground is prone to waterlogging.
- Sites usually have assigned fire pits. Follow site rules.
- Check site has no synthetic underground netting, particularly designated camping areas.
- Always prepare a range wood thicknesses – tiny thin twigs for starting fire to thicker logs for building it.
- Separate ‘small’ ‘medium’ and ‘large’ wood on ground-sheet.
- Always collect enough burning wood before you light your fire so you don’t run out during cooking.
- Preparation is essential to fire lighting and management and will be the difference between a fire staying lit or going out.

Top tip

Appoint ‘Keeper of the Wood’ and ‘Keeper of the Fire’ as camp officeholders who can be assisted by clan at meal-times. One clan member can help feed fire, build embers, organise wood.
Fire lighting

**method 1: fire steel and kindling**
Core skill for all age groups

**Materials** - Birch bark, fire wood  
**Equipment** - Bushcraft/pen-knife, fire steel

1. Gently scrape inside of birch bark with tip of knife. Create small pile of birch powder/fine shavings on top of bark.

2. Rest tip of firesteel into shavings. Strike down length of fire steel with striker (straight line). Strike multiple times for lots of sparks; apply speed and force.

3. Keep going until shavings catch light. Quickly begin to build structure of fire using more kindling/very fine twigs.

**method 2: Flint and steel**  
Ancient method of striking steel on flint

**Materials** - Charred cloth, kindling (hay), fire wood.  
**Equipment** - Steel striker (c-shaped), flint stone

1. Strike steel striker (high carbon) onto hard edges of flint stone. Small pieces of carbon are shaved from steel and friction creates a tiny spark.

2. Firmly hold charred cloth and flint with one hand. Using free hand, strike flint until spark lands on charred cloth. Persevere, a hard but rewarding method. Quickly build fire once spark catches.
Method 3: Cotton wool and vaseline

For quick fire lighting or days where nothing is dry.

Materials - cotton wool, Vaseline, fire wood (fine twigs)
Equipment - Fire steel

1. Lay a flat platform of medium sized sticks as base for fire. Useful on damp ground and helps spread heat. Place ball of cotton wool with a dollop of Vaseline on the platform. Spark with fire steel to create flame.

2. Hold a cluster of very fine dead sticks (thin as possible) just above flame until they catch fire. Set them down and begin to build fire with small sticks.

Top tip
Notice that we are not using newspaper, cardboard, or lots of leaves. They will smother the fire (prevents oxygen getting to it). Only feed fire with wood when needed.
Method 3: Charred cloth and hay
Exploring materials for fire lighting

Materials - old shells/non-flammable surface, charred cloth, dry hay, fire wood
Equipment - fire steel

1. Place a small piece of charred cloth (finger's width) on a non-flammable surface. Old shells work well.

2. Strike fire steel until spark lands on cloth. A very small red ember will form (not flame).

3. Roll a handful of dry hay into ball. Use thumb to make indent at one end. Transfer cloth and ember to hay.

4. Cup with hands and blow, allowing air to circulate in hay, until spark catches and hay smokes/burns.

5. Place bundle in fire area before flames get too large/hot. Build fire, starting with very small twigs. Do not 'over feed' or fire will go out.

Fire Structures
Different fires for different folk

Block structure - build 'Jenga' like structure with thin wood for quick, hot and fast burning flames. Ideal for boiling the kettle. Use wood prepared with splitter for sturdy structure.

Even heat – once the fire is going strong, make a ‘grid’ of logs. Put horizontal logs on the bottom, crossing logs on top. Heat will be even and is ideal for longer cooking times (sausages, potatoes).
**Tipi triangle** – traditional triangle shape. Start with smaller logs in centre, larger on outside. Good for producing heat and classic night time campfires.

**Slow sustainer** – place larger/thicker logs sticking out at four points of fire. They will burn slowly and sustainability. Move logs into the centre as they burn down. This method avoids using ‘wood for woods sake’.

![Sourcing wood sustainably](image)

Above all we should use wood in a way that has the least impact on our surroundings. Never cut down live trees for carving wood. Try to use only what you need for fires. Use leftovers from recently felled/coppiced trees for green carving wood!

**Fire Activities**

**Activity 1: Making Charred cloth**

Materials - piece of cotton, old tin (biscuit or tobacco), fire wood

Equipment - Hammer and nail

1. Cut up piece of old cotton. An old duvet cover or disused white t-shirt is ideal. Make sure it is 100% cotton.

2. Place the cotton cloth inside an old tin. Puncture 5-7 holes in the lid of the tin using hammer and nail to let air escape.

3. Bake in the fire until steam is no longer omitted from the holes. Leave to cool before opening.
Activity 2: Dutch Oven Baking

Materials - charcoal (optional)
Equipment - Dutch oven and tripod, fire safety gloves, fire shovel

1. Prepare fire well in advance, fuel with wood, and leave to form hot embers. Add a bag of charcoal to embers to intensify heat and speed up cooking process (optional).

2. Hang Dutch oven on tripod just above fire embers. Using a metal fire shovel, cover Dutch oven lid in charcoal/embers to cook food. Avoid large flames to prevent burning.

3. Wear fire safety gloves and be careful of those around you when removing oven from fire. It will get extremely hot.

Baked Lasagne

- Prepare bolognase sauce by sautéing onions and mince, cooking with tinned tomatoes, herbs, salt and pepper (Quorn mince for veggies).
- Make a basic white sauce using flour, cheese and milk.
- Oil Dutch oven base. Using ready-made pasta sheets, build up layers of mince, white sauce and pasta.
- Bake over fire for 40-45 minutes. Add water during cooking as moisture evaporates quickly.
- Be careful when taking off lid and always wear fire gloves if handling the lid.

Top Tip

Clean Dutch oven using olive oil after every use to stop rusting. Oil regularly - very important.

Try bread rolls! Make basic bread mix using flour, yeast and water (leave to rise). Roll into small balls. Bake on aluminium plate inside the Dutch Oven. This raises them off the base to stop burning (10-15 mins).
Part 2 - Tool use and safety

Bow saw/ laplander saw

Simple sawing technique

1. All age groups can use a bow saw if done safely. Preparing wood for carving can be an activity in itself.

2. Hold the handle and use one arm to push and pull the saw back and forth. Put your free arm through the centre of the bow saw and steady the log. That way if you slip there is no way you can cut yourself.

3. Venturers can practice sawing with the folding Laplander saw. Steadying hand crosses over the saw in a similar way to the bow saw. This saw cuts on the back stroke when it is pulled towards you, and is extremely sharp. We advise adult supervision.

Top Tip

Keep the saw as straight as possible. It’s not a race – encourage young people to take it slowly and build a steady rhythm. Don’t ‘force’ the saw, let the saw do the cutting and don’t apply too much pressure.
Palm drill
Easy and safe method for drilling holes

Suitable for all age groups. Rest drill handle into palm of hand with downward pressure.

Drill onto flat/horizontal surface (block or log). Keep drill straight - 90 deg to item being drilled - and apply downward pressure. Twist clockwise and anti clockwise until drill pierces through wood on the other side.

Do not drill into ground. It will blunt the drill bit or break easily. Don’t wave drills about.

Billhook/ woodsplitter
Splitting straight cuts of wood

1. Position wood directly in front of you on a tree stump. Kneeling in front of the stump, hold wood splitter at arms-length (parallel to torso).

2. Use mallet or sturdy log to firmly tap the top of the splitter. Wood will split down in a straight line. Preparing firewood is a good way to practice technique.

3. Do not split towards yourself, work on the side furthest away from you. Avoid risk of injury by cutting parallel/horizontally to torso.

A note on safety

Carry out a risk assessment of the area before you start an activity (see example at back). If you are using tools like palm drills and billhooks, you should assess the surrounding dangers, and communicate key hazards back to your group.
Tool Activities

Pendants

Cut thin wooden discs using the bow saw (1-2cm).

Drill hole through disc with palm drill.

Use wood files to make different pendant shapes, or decorate with nail varnish/paints.

Sand edges of disc for smooth finish. Soak in oil (linseed, almond, vegetable) to varnish.

Thread string or lace through the hole to finish pendant.

Wooden Book

Choose a block of green wood that is the desired width/length of your ‘book’. The width of a palm and length of a hand works well.

For book ‘pages’, use a billhook to split 2-3cm sheets from wooden block. Start at edge and work across width of wood.

Use the palm drill to make hole at the top and bottom left of each wooden ‘page’.

To ‘bind’ book, thread string through the top left hole of each page, then double back through the bottom left. Continue until all pages are strung together.

Yo Yos

Saw two discs 1-2 cm thick (of equal size and width).

Drill hole in centre of each disc using palm drill.

Find a ‘stopper’ (small twig) to adjoin discs together, leaving 1 cm gap between discs.

Tie a piece of string approx. 50cm long around stopper.

Roll string around stopper to ‘wind up’ the Yo-Yo. Tie loop at end of string for finger hold.

Decorate with paints/nail varnish (optional).
Part 3 - Knife Use

Safety

Key messages to tell your group

1. Mora Stainless Steel knives (or equivalent Bushcraft knife) can be used for cutting, whittling, carving, splitting wood and more.

2. These knives are very sharp. The amount of experience a child has using knives can help a leader decide if a child should use that knife. Our group tends to use Mora knives with more experienced Pioneers and Venturers. It is also dependent on the ratio of leaders to young people.

3. Elfins and Pioneers can use Penknives, peelers and ‘mini moras’ under adult supervision to build their skills before moving on to more advanced knives.

4. However, the following safety messages must be communicated to knife users:
   • It is possible to sever main arteries in the neck, wrists and thighs if held incorrectly.
   • Knives must be used sitting down. Sit with legs wide apart and lean forward putting your elbows on knees. Always carve away from yourself, holding knife between legs.
• Leave a ‘blood bubble’ around you; an arms length distance around you. No one is permitted to enter this area during knife use.

• Always put knife back in case when not in use (correct way round). Do not stick knives in the ground.

Cutting Techniques
Five simple ways to use a bushcraft knife

1. Batoning

• A useful method for splitting wood with bushcraft knife.

• Place your bushcraft knife horizontally over area you want to split (keep straight). Tap the centre of the blade with a log to drive it down through wood. Hit firmly, but not so hard that you loose control or damage knife.

• Wood will split vertically. Continue banging the visible end of the blade until wood separates.

• To readjust the knife, hold the wood and tap the knife handle on a hard surface until the blade is straight.

• Avoid cutting into knots (strong structure in wood). Incorporate knots into design.
2. Whittling

1. Always use green wood for carving. Dead wood is harder to work with and gives little flexibility.

2. Maneuver knife with thumb on handle (not on knife blade). Push blade away from yourself, vertically stripping wood off the surface. Do not push down into wood.

3. Stop cut

A stop cut is an indentation that can be used, for example, to prevent chord/ties from sliding off piece of wood.

1. Position knife in a straight line across wood. Press down firmly with your thumb on the knife handle to make an indent. Use the part of the blade closest to the handle for strength and control. Cut approx. 0.5 – 1 cm deep. Do not cut through wood.

2. Turn wood around. Whittle a sloped groove towards the slit made in step 1. Stop when you reach the depth of the first cut made.

3. The stop cut should look like this.
5. Diagonal cut

Good for cutting small/medium width sticks in half with a clean finish.

1. Place knife diagonally across stick. Do not attempt to cut straight across – it will not go through fibres and damages knife.

2. Tap blade firmly (not forcefully) with block of wood/mallet until it splits in two.

4. Rose Cut

The ‘rose cut’ cuts small sticks in half easily without a saw.

1. Push knife away from yourself as if shaving bark. Do not shave bark off. Instead, make groves towards the centre of the stick.

2. Rotate stick and continue groves in step 1 until a flower like structure forms.

3. As the middle weakens the stick will come apart easily. You can see where this cut gets its name! Tidy end with knife after breaking.
**Tent Pegs**

Select a piece of green wood approx. 2-3 cm width, 20-30 cm long.

Sharpen one end to a point - the stake. At the opposite end (1/3 way down) make a shallow stop cut.

**Mallet**

Measure a piece of wood, that is two palm-widths wide (around 15 cm). Choose a sturdy log. Half way down saw a deep cut all the way around wood (2-3 cm deep). Do not cut wood in half.

Then cut pieces away from log - roughly baton/split away strips of outer wood (depth of ridge). This is the handle.

Use knife to smooth the rough edges on handle.

Use knife to round off top edge of mallet head.

**Spreader Knife**

Select green wood approx. 2-3 cm wide/20-30 cm long. Mark a halfway point. To make the blade of the knife, start to whittle both sides of stick (one half of stick only).

Use pegs to set up tarpaulin as ‘shelter building’ practice. Tent pegs can be brought on future camps. Soak in vegetable oil to finish.
Be careful to take an equal amount off each side. Do not make the blade too thin or it will break. Only remove bark from the edges of the blade. Young people tend to get carried away.

Use Mora knife to round/curve the end of the spreader blade. Decorate handle by scoring patterns in bark.

To finish, soak in vegetable/olive oil. Use for spreads on crumpets!

Part 4 - Natural materials

Using materials from our natural surroundings

Charcoal

Collect pieces of green wood form a variety of species (Chesnut, Birch, Cherry). Saw them into the shape-size you would like your charcoal to be. Choose variety of widths.

Find an old tin and puncture holes in the lid with a hammer and nail (5-7). This is so steam can be released when heated in the fire.

Fuel fire with plenty of wood and leave to build hot embers. Place wood in tin and bake in embers until smoke is no longer released from the holes is the lid.

Don’t remove lid until tin has cooled - stops charcoal from disintegrating. Store in airtight tin.

Go on a ‘nature walk’ and stop along the way to draw what you see – leaves and twigs make great charcoal studies!
Birch Pouch

Remove a rectangle of bark from a log with your knife (approx 20 x 20 cm). Select wood with thicker, wet/green bark that is durable but sturdy - harvest from newly fallen logs. Sweet Chesnut, Ash or Birch work well.

Score two convex lines from the top middle to the bottom middle of the bark (on the longest side). Be careful not to pierce through bark. Punch holes on either side of bark - not too near edge - with a leather punch (equal amount).

Fold two sides up into ‘pouch’. Weave string/chord through holes to close sides of the pouch. Leave string slack - do not tighten one side first or you can’t reach holes on the other side.

Elder Whistle

Cut piece of Elder approx. 10-12cm long with large pithy centre. Secateurs are a great tool for this. Use a tent peg to push out the mushy, soft centre. The hollow middle is the sound chamber of the whistle. Do not pierce through edges.

Make a stop cut at top of whistle (2cm from top). This should pierce through to hollow centre.

Make a small dowel for the whistle ‘blow hole’. Find a stick that is the same width as the hollow middle. Shave a flat surface on one side.
- no longer than the length from the top of the whistle to stop cut. Slot the 'down' into the top end of the whistle (snug fit). There should be a small air passage where you shaved the flat surface. To close sound chamber, cut another piece of Elder that fits in bottom hole of whistle. Use section from narrow top of elder twig. Do not remove pith. Trim end.

**Nettle Cordage**

Remove leaves from nettle by running hand down length of stem (underside of leaves). Wear gloves.

Use hands/knife to split open stem from top to bottom. Remove hard white pith from center and preserve outer skin as much as possible (fibres for chord).

The stringy fibres left will be used to make chord. They must be left to dry out overnight, and moistened with water the next day.

Place fibres across your thigh. Use hand to roll fibre’s forward over and over. At same time, use your other hand to twist the top end of the fibres in opposite direction (towards you).

One hand twists anti-clockwise (towards you) and the other twists clockwise (away from you).
Tension will form and the chord will begin to ‘buckle’. Form a small loop at this point and bend chord over into two prongs. Continue twisting process (step 4 & 5) to turn two prongs into one piece of chord.

‘Buckle’ fibres about 2/3 of the way down chord. This is so you can add new fibres in later to lengthen chord.

To make chord longer twist in new fibres at the point where the second shorter prong finishes. Continue twisting both prongs into one chord.

Further Info

For more information on the Hornsey Woodcraft Folk ‘Bushcraft and Outdoor Skills’ project please contact Kate.anderson678@gmail.com

Woodcraft Park Farm (WPF) Bushcraft Area (Lurgashall, West Sussex)

New dedicated woodland site set amongst the Sussex Downs. Fast becoming Woodcraft’s leading centre for Bushcraft practice and learning, with training courses for those who want to learn, and a maintained supply of equipment and tools.

For more information, bookings or to add your name to the mailing list, please contact Dick Tyke on dt.sparx@virgin.net or 01932 231684 or 07504 643952

Visit www.woodcraft.org.uk
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<thead>
<tr>
<th>Type of Hazard</th>
<th>Likelihood of Occurrence</th>
<th>Hazard Severity</th>
<th>Risk Factor (L.O x H.S)</th>
<th>Action to be taken to reduce risk</th>
<th>New Likelihood of Occurrence</th>
<th>New Hazard Severity</th>
<th>New Risk Factor</th>
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<tbody>
<tr>
<td>Cut to hand or body whilst taking the fixed blade knife out of its sheath</td>
<td>2</td>
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<td>4</td>
<td>Run through safety rules and how to take out and return knife to the sheath ensuring it clicks back into place and has the rope wrapped around the blade and sheaf</td>
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<td>Cut to hand or body whilst handling or passing the fixed blade knife</td>
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<td>Carry knife with it firmly clipped into its sheath, with rope through one arm and over head so knife is to the side of the body. Walk – never run!</td>
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<td>Serious cut or loss of a finger during use of fixed blade knife for whittling</td>
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<td>9</td>
<td>Go through safety instructions on how to use the knife. When whittling make sure the knife is always cutting away from the body. Elbows on knees to protect the main artery in the legs.</td>
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BLUE SKIES!