Navigation for U3A Walkers

Are you a keen walker who doesn't always want to wait for the next group walk, or do you sometimes just feel like setting off on your own or with one or two friends, independent of a leader?

There are waymarked routes in some areas, but for some of the best walks you have to leave the beaten track.

No leader, no waymarks – it's enough to put many people off, but it doesn't have to. All you need is a map and the ability to use it.

Map-reading

We're lucky in Britain to have some of the best maps in the world, courtesy of the Ordnance Survey. You've seen their maps in countless stationers and outdoor shops. Perhaps you already have a local one. However, a massive sheet of paper like that can be intimidating, even the one that shows your own home area. If so, go on to the Ordnance Survey website (www.ordnancesurvey.co.uk) and use the "Getamap" facility to download and print a little square that focuses on your own home; all you need to do is enter your postcode. Some of the symbols you see will be self-explanatory, but you'll find a key to all of them on the website, (Education, Teaching Resources, 1:50k Symbols.)

The best way to begin to learn to read a map is simply to walk around your own home area with your map, relating what you see on paper to what you see around you. You should be able to tell what you'll see round the corner, before you get there, just by looking at the map. A church on the left hand side of the road? A wood on your right? A railway bridge? And will the wood be coniferous or deciduous? Will the railway go over or under the road? You'll be surprised by how much information the map can give you.

Scale

Maps do vary in the amount of detail they give. The Explorer series is a popular one with ramblers. 4cm on an Explorer map represents 1km on the ground so there is lots of room for useful details like field boundaries. Or you might prefer the Landranger series, in which 2cm on the map represents 1km on the ground. Less room on the map for detail, but fewer maps to buy to cover the same area. Which you will find most useful depends largely on the sort of places where you walk: hillwalkers, going where there are few field boundaries, often prefer the clarity and simplicity of Landranger maps.

Route planning

Being aware of the scale of a map will start you thinking about the length of your walks. It's all too easy to sit by the fire on a winter's evening with a map on your knee, saying, "That looks like an interesting lane going up the glen from the pub. And the path continues right up on to the ridge and down into the next glen. And then you could walk along beside that loch to..." If you actually try to do this inviting looking walk, you might find yourself still far from home at midnight! Before committing yourself to anything rash, measure your prospective route on the map (there are clever gadgets to do this but a bit of string laid along the route will do fine) How many km will you have to cover? And how long will that take you?

Some hillwalkers base their calculations on 5km per hour. Duke of Edinburgh Award candidates on expeditions are advised to calculate on a basis of 3km per hour. There's absolutely no one "right" speed; the important thing is to know what your comfortable pace is, and consequently how far you can walk in the time available. Misjudging how far one can walk in a day is the cause of many mountain rescue callouts. So measure a short route from your home and see how long it takes you. With experience, you'll become aware of how certain circumstances make you faster or slower: weather, the ground underfoot, a heavy rucksack, good views, etc. If I'm leading a group of people on a walk, I always try to judge the speed they're moving at, during the first half hour or so, in case I need to modify my original plan.

Contour lines

It won't take you long to notice that going uphill takes longer than walking on the flat. In fact, the hillwalkers who calculate on 5km per hour have a formula for this too: they add on a minute for every 10m of ascent. Many of us lesser mortals add two or three.

All very well, but how do you know how many metres of ascent you'll be doing on your proposed walk?

Many ramblers manage perfectly well by simply adding a minute (or two, or three) on to their estimated time for every little brown line that their route crosses. They may, however, have only a hazy idea of what the little brown lines represent.

If you're taking things seriously, you'll probably want to get your head round the concept of contours, and if you want to go hillwalking as well as walking closer to sea level, understanding contours is essential. A contour is defined as a line on a map joining places of equal height; on Landranger maps these are at 10m, 20m, 30m, 40m etc above sea level. However, I find it easier to think of a model of a hill, made of layers of thick cardboard, one for each contour line, piled on top of each other, biggest at the bottom, smallest on top. Thus, a perfectly conical hill will be represented by perfectly round contours; if the contours are a series of concentric ovals, the hill will be longer than it is wide. Contour lines close together represent a steep slope; an area of map without contour lines will be quite flat.

Learning to interpret contour lines takes time but is worth while. One way of making it a little easier is to focus on the thick contour lines – if you look carefully at the map you'll notice that every fifth contour line is thicker than the others; the ones at 50m, 100m, 150m above sea level, and so on. I've found it helps to go over these lines on the map with a suitable colour of highlighter. Concentrating on the thick contour lines seems to simplify the overall picture so that you get a clearer impression of the shape of the hill. You can also get a rough idea of how much to add to your estimated time, if you simply add five minutes, or ten or whatever, for every thick contour line your route crosses going uphill, rather than trying to count every single line and adding a minute for

each. You don't need to add anything for crossing contours going downhill unless the ground is really precipitous (in which case perhaps you shouldn't be there!)

So you can use the map before your walk to locate possible interesting routes, and to work out whether or not a route is feasible for you in the time available.

Following your planned route

Having used it to plan your walk, you should also use it during your walk to make sure you don't unintentionally stray off your route and get lost. There's a simple system you can use here. Concentrate on one section of the route at a time. Before leaving the starting point, look at the first section of the route on the map – say the first 500m, or the first km. Look really carefully. Try to list every single feature you will encounter on that section of the walk: buildings, water, woods, slopes. (Some people actually make a route card beforehand with all these details written down; I do it inside my head.) When you actually start walking, check these features off as you pass them. Yes, it sounds like a lot of bother at first, but soon you'll get into the way of it and begin doing it automatically. You won't even know you're doing it, until the moment when the mental alarm bells ring and you say "Just a minute. There should be a wood on the left of us now, not that loch." And all you have to do is retrace your steps a little way, to where the map and your surroundings do match up, and work out where you took a wrong turning. If you don't try to anticipate what you should see next, you can be miles out of your way before you realise it.

Some walking guidebooks give diagrams which only show the route itself without any information about the surrounding countryside. A proper map gives you much more information: the name of the mountain in the distance, the opportunity for a view from the little hill beside the path, the fact that a nearby village has a PC or a PH. It also gives you flexibility: you can perhaps find a way of extending the walk on a fine day, or a shortcut to get you home quickly if necessary. This flexibility is particularly important on high ground where sticking obstinately to your original plan could be dangerous if the weather deteriorates unexpectedly. Some people use software such as MemoryMap to print an A4 map of the area where they plan to walk, rather than having a full map, but this has the same

disadvantage as the above walk diagram. If using a small section of map, always have the full map in your rucksack, just in case of a change of plan.

Using a compass

Many people doing less committing walks in easy terrain never find it necessary to use a compass, so feel free to skip this next bit. Skilled map-readers who can relate features of their surroundings to the map can often leave the compass in the rucksack, but in high, featureless terrain when the mist comes down, they'll have to get it out and be able to use it. Just in case you ever find yourself in this situation, it's worth practising compass-work till it becomes easy.

The modern Silva-type compass has an oblong base-plate with an "direction of travel" arrow engraved on it; you hold the compass in front of you with this arrow pointing straight away from you. There is a round compass housing in the base-plate, and you can swivel this around. Inside it is the magnetic needle, with one end coloured red; this is the end that always points north. The bottom of the compass housing has an arrow or arrows, usually also coloured red.

So there you are, in the middle of the Cairngorm plateau, and the mist has come down suddenly. It's no use sitting down and waiting for it to clear; that could take days. You've got your map out, of course; you know where you are on it, of course; and you can trace out on it the line of the route that will get you back to the road where you left the car. All you have to do is walk in the right direction to follow that line.

This is where the compass comes in. Place it on the map so that the arrow on the base-plate is exactly lined up with the line of your route. (I use the long side of the base-plate for this.) Next, swivel the compass housing round until the arrows inside it point exactly north (the "top") on the map; the faint blue grid lines on the map help here. (If the group expert asks "What bearing do you have?" it's the number on the edge of the compasss housing next to the direction of travel arrow.) Take the compass off the map, hold it straight before you like Macbeth with the dagger, and turn yourself round till the red end of the magnetic needle is directly over the red arrows in the compass housing. Now look up. Look straight along the direction of travel arrow on the

compass baseplate. Look for a feature such as a tree or a big boulder directly in line with the arrow. Walk towards it, and when you get to it repeat the process. You may find that you have to plan a zig-zag route to avoid crags or steep slopes, and when doing this in mist it's useful to be able to judge how far you have walked in one direction, either by timing, eg 12minutes to a km, or pacing, eg 70 double paces to 100m. By the time you find yourself in this sort of situation you should have built up the experience and knowledge to be able to do this.

It's important not to be too ambitious at first: start with short local walks where you can feel sufficiently confident and relaxed to be able to concentrate on relating what you see on the map to what you see on the ground around you. Once you have made the necessary effort to learn to read them, maps will open up a whole new world for you. Maps give me the freedom to roam the Scottish Highlands for days at a time, exploring areas that look interesting, finding my way to hidden lochs and glens and remote mountain tops.