Berkshire Scouts

The Duke Of Edinburgh's Award
Hill Walking and Expedition Planning

This Handbook is an aid to training young people to prepare them for hill walking.

It is written from the perspective of the requirements of the Expedition section of the Duke of Edinburgh's Award, and should also be useful for other awards of a similar nature, for example within Scouting.

Contents

Author's Note

The author is a Mountain Leader and Canoe Coach and has over 20 years experience in leading Scouts and others on hill-walking and backpacking trips. More recently, he has been an assessor for the Duke of Edinburgh Award.

This Handbook is based on the notes and handouts developed in this time used for training young people preparing to undertake their expedition for the Duke of Edinburgh's Award and for activities of a similar nature within Scouting.

It reflects the author's understanding of the rules of the organisations referred to at the time of writing. Leaders must satisfy themselves that they are operating within the current requirements of the Duke of Edinburgh Award through the appropriate Operating Authority. The author cannot take responsibility for any expedition that he is not personally involved with.

1 INTRODUCTION

The purpose of this Handbook is to act as a guide to instructors and participants of outdoor activities:

- Provide a source of training material for those planning hill-walking expeditions, particularly those planning a Duke of Edinburgh Expedition
- Act as checklists for Leaders planning or supervising an expedition
- Provide support for participants taking part in Duke of Edinburgh Award Expeditions, or any other hill-walking event

Both the Duke of Edinburgh Award Scheme and the Scout Association formalise many of the processes that are generally accepted as "Good Practice", such as Route Plans, Risk Assessment and Emergency Home Contacts.

The Duke of Edinburgh Award Scheme, in particular, has specific requirements[1] for an expedition. These are explained in the next section.

This Handbook attempts to cover expeditions ranging from Bronze level, which operates in normal rural countryside, through to Gold level (wild country). The requirements for the former are clearly less onerous, and the terrain less demanding, than that for Gold level. The training needs to be tailored so as to be appropriate to the level of the award.

The main part is intended to be general in that it tries to cover the needs of young people planning to venture into the hills, their instructors, leaders and supervisors with particular reference to the expedition requirements of the Duke of Edinburgh's Award.

The Appendices highlight the specific requirements of operating authorities:

- The Scout Association

Groups in Scouting are increasingly promoting the Duke of Edinburgh Award Scheme and this Handbook tries to facilitate this. The Scout Association rules are set out in the document "Policy, Organisation and Rules" (POR), with further explanations given in a series of "factsheets" which can be downloaded from the website: www.scoutbase.org.uk/library/hqdocs/facts/index.htm

[1] Taken from the 'The Duke of Edinburgh's Award Handbook' (4th Edition).

2 DUKE OF EDINBURGH'S AWARD

The minimum age ranges for entry into the Duke of Edinburgh Award levels are:

Bronze	- 14 years[2]
Silver	- 15 years
Gold	- 16 years

There are four sections at each level:

Service	- to encourage service to individuals and the community
Skills	- to encourage the discovery and development of personal interests and social and practical skills
Physical Recreation	- to encourage participation and improvement in physical activity
Expeditions	- to encourage a spirit of adventure and discovery

[There is an additional requirement at Gold level – a Residential Project away from home of 5 days and 4 nights.]

2.1 Expedition Requirements

The Expedition section of each level requires the group to Plan, Prepare for and to undertake a Venture, the length and challenge depending upon the Award level:

Bronze	- 2 days, 1 night	In normal rural countryside which can be familiar to the participants
Silver	- 3 days, 2 nights	Normal, rural open countryside or forest which is unfamiliar to the participants
Gold	- 4 days, 3 nights	Wild Country, remote from habitation, which is unfamiliar to the participants

There are two types of qualifying Venture – an Expedition or an Exploration.

Expedition – has the journey as the principal component ('A Journey with a Purpose')
Exploration – Less journeying and more time spent on the Aim ('A Purpose involving some Journeying').

The season for expeditions is between the end of March and the end of October, although training and practice journeys can take place at any time.

The party size must be between 4 and 7 members, for safety reasons.

[2] Operating Authorities can allow those who are too young to enter the Bronze Award but who are part of a larger group aged 14 years and over to make a start with their friends

2.1.1 Explorations

"A Purpose involving some travelling" - Typically 3 hours travelling and 5 hours project.

Everyone must pull their weight and contribute to the project, and members must each produce a sizeable chunk of work for the project

Project involves research before, during (and after) the journey and a final presentation.

Books	Need to get a Mentor to assess the Study
Photos	Who needs to be convinced the work is thorough?
Geology	Who knows the subject and checks the quality?
Local knowledge / history	Who checks the Study is wide-ranging?
Drawings / measurements	Who signs off the Report?

The whole Study involves:
- Prior planning
- Data collection
- Study itself
- Presentation of Study in a formal report
- Assessment

2.1.2 Expeditions

"A journey with a purpose" - Typically 6 or 7 hours travelling and 1 or 2 hours project per day

These tend to be driven by 1 or 2 people in the group, but everyone must complete the expedition.

Bronze Award expeditions can take place in normal rural countryside – the locations are often dictated more by the availability of suitable campsites, and footpaths where road walking is kept to a minimum.

Suitable areas for Duke of Edinburgh's Award expedition are:

Silver Award	Gold Award
▪ Chilterns ▪ New Forest ▪ Mid-Wales and South Wales ▪ South Dorset coast	▪ Dartmoor ▪ Lake District ▪ Snowdonia ▪ Scotland ▪ Overseas!

Wild country areas, such as Dartmoor, Snowdonia, the Lake District, can be hazardous in bad weather. In the event of an accident, the remoteness of the location, particularly if coupled with bad weather, makes any accident potentially serious.

2.2 Expedition Process

Under the Duke of Edinburgh Award scheme, the Expedition process consists of:

2.2.1 Training

The participants must complete a period of training to prepare them for the expedition. All the Record Books **must be signed off** by an instructor to show that the participant has been trained before the Assessor can permit the Venture to start.

The training covers:

- first aid and emergency procedures
- an awareness of risk and health and safety issues
- navigation and route planning
- camp-craft, equipment and hygiene
- food and cooking
- Country, Highway and Water Sports Codes (as appropriate)
- observation, recording and purpose
- team building
- proficiency in the mode of travel

2.2.2 Practice Journeys

The participants must have undertaken sufficient practice journeys (at least one at each Award level) to ensure that they are able to journey safely and independently.

The practice journey must not be in the same area as the final Expedition, but should be in similar terrain. For example, a practice journey must be in Wild Country where the qualifying venture is to be held in Wild Country.

2.2.3 Planning

The group must demonstrate that they have planned the Venture adequately, covering all aspects of the Journey (planning, routes, campsites, equipment, menus, safety and emergency preparations).

The group must show that all the members have planned their expedition Purpose. This covers things like:

- What is the project
- How are investigations to be undertaken
- How much time each day is to be spent on the project
- How are the investigations to be recorded, written up and presented?

The assessor will assess the Venture against the Plans - and will expect a progressively higher standard moving from Bronze to Gold!

Typical problems are:

1. Finding an assessor for the location of the expedition
2. Where to camp - Wild camping only possible in few areas, otherwise must pre-book camp sites. Not a problem for Bronze or Silver where wild camping is not a requirement.
3. The route must not follow a Long Distance Path, which rules out some areas.
4. Finding a time when everyone can do the expedition – best to have a group of at least 5 in case someone drops out.
5. Getting the paperwork sorted out in time

2.2.4 The Qualifying Venture

Each Expedition (or Exploration) must have a clearly defined aim, the journey being chosen to support this aim.

A group of between 4 and 7 young people must carry out the expedition. It should take place between the end of March and the end of October in an area unfamiliar to the participants.

Timescales for Qualifying Ventures:

Level	Duration	Planned Activity	Typical Distance
Bronze	2 days & 1 night	At least 6 hours each day	24km – 32km
Silver	3 days & 2 nights	At least 7 hours each day	48km – 59km
Gold	4 days & 3 nights	At least 8 hours each day	80km – 96km

Planned activity covers time spent journeying plus time spent on the project Aim.

Accommodation will be by camping (although camping barns or mountain huts may be permitted in some circumstances) and the group must have equipment suitable for the activity and the environment in which the venture is to take place.

The venture will have a Supervisor, for example, a Leader who has been responsible for their training. The Supervisor is responsible for the safety of the group.

The Assessor, who will be qualified and recognised by the Operating Authority, will need to be happy with the Expedition Plans before the Venture can start.

The Assessor will meet the group before they set off, may meet them during each day (e.g. for route finding), will check them each night, particularly monitoring their camping and cooking skills.

The group must check what notice of the Expedition is required by their Operating Authority, and must get their plans in on time.

2.2.5 De-Brief

The Assessor will de-brief the group at the end of the Expedition.

2.2.6 Presentation

The group provides a presentation of the journey and account related to the Aim of the Expedition. This can be to the assessor or any involved adult such as the Leader.

2.3 Rules & Regulations

The Duke of Edinburgh's Award office and the Operating Authorities have strict rules that apply to Duke of Edinburgh Award Expeditions. These rules are expanded where the expedition takes place in Wild/Adventurous country or overseas. The Operating Authority should be contacted as soon as the planning for the venture starts.

The Operating Authority needs to know who the following personnel are on the expedition and:

- **Supervisor** - A party leader must be present during the qualifying venture. This person must be a suitably experienced adult who is qualified and currently authorised for that terrain, location, time of year and conditions. The Supervisor is responsible for the supervision of the Expedition and is responsible for the safety and well-being of the participants.
- **Assesso**r – An assessor must be present during the qualifying venture. This person is someone who is recognised and authorised as an assessor by the Operating Authority for the terrain, location, time of year and conditions.
- **Support staff** – adults present to provide support
- **The Participants** – Includes name and address, ages, next of kin, medical information
- **Home Contact** – Someone who can communicate with the expedition group (and vice versa), to relay information to parents about changes such as late arrival home or changes to the programme.
- **Emergency Contact** – Someone at the home location who can activate emergency procedures in the event of a serious incident. This person should be unrelated to anyone on the expedition. Some organisations combine this responsibility with that of the home contact.

The Operating Authority will require information about the Area and routes proposed for the venture, also dates and campsite information. Risk assessments are likely to be required, including information on travel arrangements. The Operating Authority will need to satisfy itself that there is adequate insurance cover, and may need to check that the proposal is adequately financed.

Operating Authority Approval
The Operating Authority will need to satisfy itself that the venture is properly planned, supported and the participants adequately trained. Once this is done, the Operating Authority will authorise the venture to take place – the form of this Authorisation depending on the Operating Authority but normally in the form of a letter of approval.

The key point is the Operating Authority must be informed of the intention to run a venture as soon as possible – one example timeline covering all the stages is given in the Appendices.

The Participants
The Leader and assessor must ensure that the party members are properly prepared and know what to do in the case of an emergency. An example of an Emergency Card setting out what to do is given in the Appendices. The party leader must also check that those who need copies of the current Route Plan do have them before they set off.

3 PLANNING

3.1 General

This Handbook covers all the main elements of planning the sort of expedition that young people may be expected to undertake, in particular a Duke of Edinburgh Expedition of any level within the UK.

Any expedition needs to be planned in advance, bearing in mind the aims and capabilities of the participants.

It is important that the participants share the same aims and that the capabilities of all members of a party are taken into account – the route must not be so demanding as to leave nothing in reserve in case things go wrong..

Hill-walkers who are still gaining experience need to appreciate the mountains and are likely to be put off if they feel the experience has been unsafe or over-demanding. It is often better to look for walks with limited amounts of ascent. This is particularly the case for those back-packing. It is not necessary to get to the tops of mountains to enjoy a satisfying walk that enhances the participants appreciation of the mountains. There are many excellent valley and ridge walks that provide good introductions to hill-walking, and which are more suited to back-packing expeditions.

Any expedition needs to include the following when plans are being drawn up:

- Route Plans
- Risk Assessment
- Emergency Home Contact
- Kit List
- Food & drink, emergency rations
- Budget
- Programme/Schedule of Activities and appropriate notification forms to the appropriate operating authority. These must be sent in and approved before the expedition is allowed to proceed.

Within the Duke of Edinburgh Award Scheme, the expedition assessor will be looking at the group's plans to see how thoroughly the group has planned their expedition.

3.2 Preparation and Planning

Because there is an element of danger in these activities, there must be careful planning to minimise the risks. Groups must prepare and plan any expedition as a team. The following is a list of the main points that you must start thinking about:

Advice – Seek advice at home and in the area of the activity. Sources of information include maps, guide books, information centres and local National Park papers.

Aim – Choose an Aim, area and route that are within the ability of everyone.

Programme – Draw up a programme for your expedition. This has to cover transport, the time of the expedition, the route, and the project work.

Training – Make sure your navigation, camping and skills are up to scratch

Fitness – Make sure you are physically fit. Do not take part if you feel unwell.

Emergency Procedures – Ensure that you are prepared for the unexpected. How are your First Aid skills?

Clothing And Equipment – Make sure you have got the correct amount of tried and tested kit. Do not try out new kit on the actual expedition.

Food – Plan for a good calorie intake, easy preparation and light weight.

Allow Time – to get the paperwork done. Your expedition must be approved by the relevant authorities. Talk to your supervisor to find out what documents are needed and what the deadlines are.

3.3 Project Work

An expedition involving a project, such as the Duke of Edinburgh's Award, is not just a backpacking expedition, but is also a means of discovering some interesting facts about the area you plan to visit. The project should form the centre piece of the presentation.

The purpose of the Expedition should be planned at an early stage. Discuss the likely types of project with all the other members of your party so that everyone agrees and has a part to play.

Advice and assistance can be taken in the types of project that could be undertaken in a particular area but the decision and the work must be yours. Some project ideas are given in a later section.

3.4 Planning For The Qualifying Venture (Duke Of Edinburgh)

The Group must present a formal plan for the qualifying Venture.

This will be given to the Assessor before the Venture. It can say "this group is well prepared, the plans are nicely presented, comprehensive and accurate" or it can give the impression that the group is disorganised, unprepared and haven't given much thought to the Venture.

It is in the interests of the Group to present a well-prepared Plan – but only if it has been properly checked for accuracy! All members of the group must be seen to have prepared the Plan, and to have checked it – the Assessor will pick up silly mistakes in the Route Plans for example.

A good Plan will get the Group off to a good start. The following is a checklist of what **could** be included.

Item	***Description***
Purpose of Venture	A brief description/title for the project What is in the scope of the project

Group Members	A sentence or two about each group member, their skill, interests, and what they can contribute to the expedition Home contact details, medical (e.g. asthma), ages
How the Project will be carried out	Research before the Venture How information will be collected for the project during the Venture How will observations be recorded? Background information (reference books, maps, pamphlets, websites) Time planned for journeying each day, and time spent on the project Equipment needed for the project (e.g. cameras, notepads) Skills (or training) needed for the project How the final presentation will be made (slide-show, flip-charts, website, written diary etc.)
Practice Expeditions	What was learned during the practice expeditions, particularly that which is carried forward to the qualifying venture
Routes	Route Plans (check these are right!) Show emergency routes Tracing of routes over maps (1:25000) scale Points of interest en route
Equipment	Personal kit list (incl. Emergency equipment) Personal camping equipment Group camping equipment Planned weights of kit to be carried (includes food, water, fuel)
Cooking	Cooking equipment (stoves, fuel) Amount of fuel needed, and how replenished Cooking safety precautions
Menus	Daily menus amounts of water to be carried, or how obtained Estimates of cooking times
Budget	Prepare a budget for the trip – how much for food, fuel, transport (someone pays for the petrol!) Campsite fees, a contingency allowance and emergency cash

In short, set out:

Who is on the trip	- list the Participants
What you plan to do	- Purpose of Trip
Where you plan to do it	- the Route
When you plan to do it	- give the dates (e.g. on the route plan)
Why	- the Aim (Project)
How Much	- the Budget
Safety Cover	- risks, precautions, home contact, Supervisor

4 NAVIGATION

Navigation is finding your way from one point to another. Good navigation is needed so you don't get lost in unfamiliar areas, especially in mist or in poor weather. It is important not to lose time, so that you stick to the times on the Route Plan. Arriving late at the campsite risks having to put tents up in the dark, feeling too tired to cook.

We navigate by looking at the surrounding terrain, by using a map and/or a compass.

4.1 Terrain Navigation

This is the most basic form of navigating or "finding our way" that we all use every day, by recognising features, and by following instructions such as:

"Walk up the hill by the edge of the forest until you get to a stream. Follow the stream uphill until it forks, then follow the right hand fork until you get to the waterfall".

1. Distant Features –(these are only useful in clear weather)
    - Examples - Hills, valleys, rivers, lakes, woods, and buildings.

2. Near Features
    - Hill shape – ridges, spurs, concave/convex slopes, cliffs
    - Valley shape – "U", "V", gorge, junctions, waterfalls
    - Ground features – rivers, boundary markers, and woods

3. Close Features – (very useful in mist/cloud)
    - Type of ground – grass, rock, scree, marsh and bog
    - Slope of ground – flat, angle and direction of slope
    - Ground features – streams, ditches, walls, types of trees

4.2 Map Navigation

WHAT is a Map?

- It is a mixture of a picture of the ground (similar to what you might see from an aircraft) together with various symbols on it to aid understanding

WHY do we need Maps?

- So we can understand and visualise the shape and form of the ground to help us plan routes in advance
- So we can keep a check on where we are during a route
- So we can appreciate what is around us as we walk

A map is a pictorial representation of the ground: many of the features are represented by "map symbols". It is important to learn all the map symbols connected with open country. A 1:25000 map will show many features that you need to recognise.

To use the Map for navigation, you must first Set the Map. This means aligning the Map and the ground in the same direction. This is done by picking prominent Distant Features such as hills, lakes, and rivers and then rotating the map so that the Map lines up with the ground, and the features on the ground and on the map line up.

(You can also Set the Map by using the compass to align the Map with magnetic North.)

Then by relating the Near Features to the corresponding symbols on the map, you can check your progress as you pass along the route.

4.3 Compass Navigation

WHAT is a compass?
It is a magnetic needle that revolves to point to magnetic north, and is mounted on bearings to act as a dial so you can read off bearings (angles)

WHY do we need a compass?
To align the Map with the ground when Distant Features are not visible
So we can plan the direction of travel on the various sections of a route
So that we can walk in a known direction when we cannot see Near Features (useful if lost!)

All maps are drawn with North at the top. Therefore, the compass can be used to correctly orientate the Map with respect to ground even if you are in mist/cloud.

Good, confident knowledge of using a compass is essential at Silver and Gold levels, and those at Bronze level should be capable of using a compass to determine overall directions.

For precise use, the user must be familiar with magnetic variation (or deviation). The position of the earth's magnetic pole varies with time so that Magnetic North does not quite line up with the direction of north shown on a Map (Grid North). In fact Magnetic North is somewhere to the West of the North Pole. The difference is called the Magnetic Variation (or Deviation), and at the moment is typically 3 degrees West of grid North (it varies between 2° and 6° across the UK – look in the information section on Ordnance Survey maps). [3]

When taking a bearing on the Map with respect to the N-S grid lines, we call this bearing the Grid Bearing. We have to convert this into the Magnetic Bearing, when we want to use the compass to show the direction to walk, by ADDING the Magnetic Deviation. Remember that at present the Magnetic Bearing will be about 3 degrees bigger than the Grid Bearing in the UK.

Similarly, if we take the Magnetic Bearing of a Distant Feature, then we can only use this on the map after we have turned it into the Grid Bearing, by SUBTRACTING the Magnetic Deviation.

It is important to know how to obtain the magnetic direction of travel bearings from the Map and Compass so that a detailed and accurate Route Plan can be prepared.

[3] Magnetic Deviation in other countries varies – e.g. see website www.pangolin.co.nz/almanac/magvar.php

4.4 Navigating Techniques

4.4.1 Distant Features

When you are following a compass bearing in open country, look for some distant object, like a tree or boulder, that is in line with your compass bearing. Then walk to that object and repeat the process to another distant object. This makes for better walking than always looking at the compass.

4.4.2 Tick Off Features

You should do this automatically. Make a mental note of what you expect to see on your route ("In 1km we should cross a footbridge, that's 12 minutes").

4.4.3 Guide Line Features

Follow well marked features like fences, footpaths, streams – but check these keep going in the direction you want!

4.4.4 Aiming Off/ Attack Points

This is where you aim off from a difficult spot towards a much easier point which is fairly close to where you want to go. Then to go for the final objective, which is now much closer.

4.4.5 Dog Legs around Obstacles

When you are following a compass bearing over open country, it is common to come up against obstacles like trees or bogs.

Do a dog-leg around the obstacle by walking a set number of paces at 90°, continue on the original bearing until clear of the obstacle, then back the same number of paces on the reverse 90° bearing, then return to the original bearing to continue your walk.

4.4.6 Bad Weather or Night

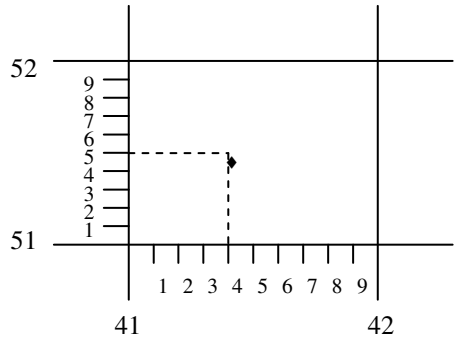
Send a party member to go a way ahead and tell them to stop whilst still in sight. Use them as a marker by telling them to step left or right until they are on the right compass bearing. Then the rest of the party moves up to join them, and the process is repeated … and repeated. This is slow but keeps an accurate bearing.

5 MAPS

5.1 National Grid

OS Maps are covered with Grid Lines, running North/South and West/East. Each line is numbered and drawn at 1km intervals. (The diagonal of each square is about 1½ km.)

To get the 6 figure grid reference, you take the figures along the bottom first, then up the side ("Go along the hall, then up the stairs"). The full grid ref. is of the form SU414515, the SU giving the OS 100km grid square identification, but the letters are often omitted.



6 digit grid reference = 414515
4 digit grid reference = 4151

[Note: This grid reference is not actually a point, but applies to an object anywhere within a 100m square between 414 and 415 (horizontal axis) and between 515 and 516 (vertical axis). An 8 digit grid reference would give a 10m x 10m square.]

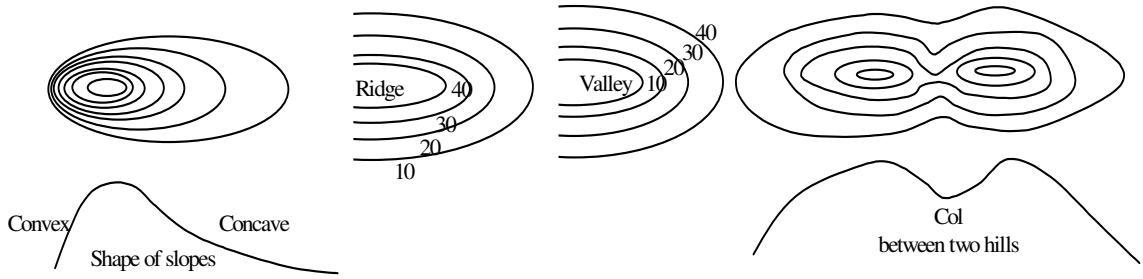
5.2 Scale

The most common scales used for hill walking maps in the UK are 1:50,000 (OS Landranger maps, normally with red covers), and 1:25,000 (OS Explorer or Pathfinder maps, with orange or yellow covers). Maps from other countries often don't use grid lines.

On the 1:25000 maps, the 1km grid lines are 4 cm apart (100m on the ground is 4mm on the map.
On 1:50,000 maps, 2cm represents 1km (100m on the ground is 2mm on the map).

5.3 Contours

Contours are lines invented to show the overall shapes of the land. Each contour line represents a height at either 5m intervals (e.g. New Forest) or 10m intervals in hilly country (e.g. Snowdonia). Every 5th contour on metric maps is a thick contour (every 25m or 50m).



Contours do not show what happens between intervals, so small features can be missed.

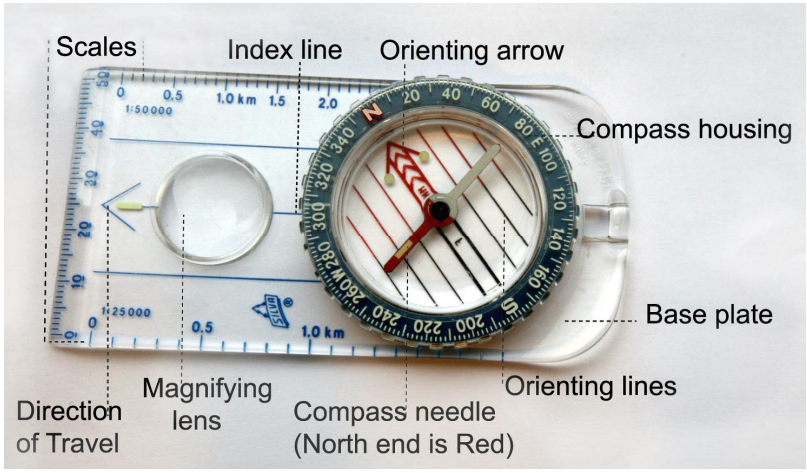
5.4 Setting The Map

5.4.1 To The Ground

Turn the map so that, with you as the central position, all the features around you line up in their correct relative positions.

5.4.2 Using a Compass

Place the compass on the map and turn both together until the red (N) end of the compass needle points to North on the map. For accuracy, adjust for magnetic deviation.



5.5 Taking Bearings

5.5.1 Map To Compass

This is the normal procedure when you are planning a route using the map, and want to find out what the (magnetic) bearings are that you need to follow. It is a good idea to just look at the map and estimate by eye what sort of direction you need to travel. This immediately highlights any problems of misreading the compass, particularly getting the north and south directions muddled!

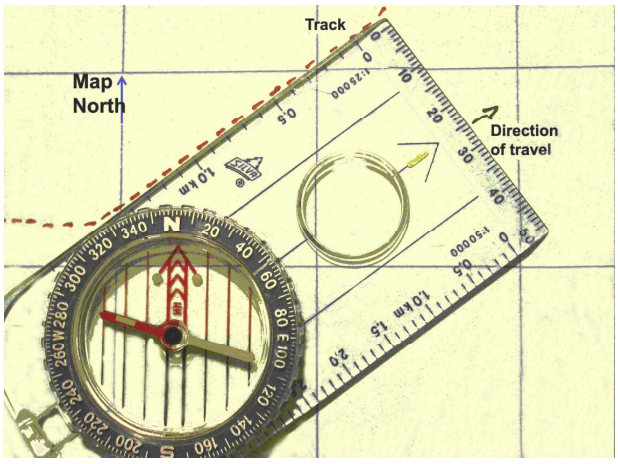
(a) Place the compass with one of the long edges of the base along the line joining your present position to your objective, making sure that the direction of travel arrow on the compass is pointing in the direction you want to go.

(b) Hold the compass firmly on the map and rotate the compass housing so the N-S lines engraved on it line up with the N-S grid lines on the map. Make sure the N orienting arrow on the housing is pointing N on the map.

(c) Read off the bearing against the index line on the Compass . This gives the Grid Bearing – so far this is just using the Compass as a protractor.

(d) You then need to ADD the Magnetic Deviation (typically 3° - look at the information on the Ordnance Survey map for details) to get the Magnetic Bearing, which is the bearing you need to follow from the compass when you are walking.

The diagram shows a compass on a map set up to measure the bearing for walking on a track in a roughly NE direction.



The base of the compass points along the direction of travel and the round compass housing has been rotated so the orienting arrow points N along the N-S grid lines on the map.

(Ignore the swinging magnetic needle – this points to magnetic N but the map has just been laid on a table as if the route is being planned. The map has not been set N-S.)

The reading (Grid bearing) on the compass housing is 52° in this example. Adding 3°gives a magnetic bearing of 55°

5.5.2 Compass To Map

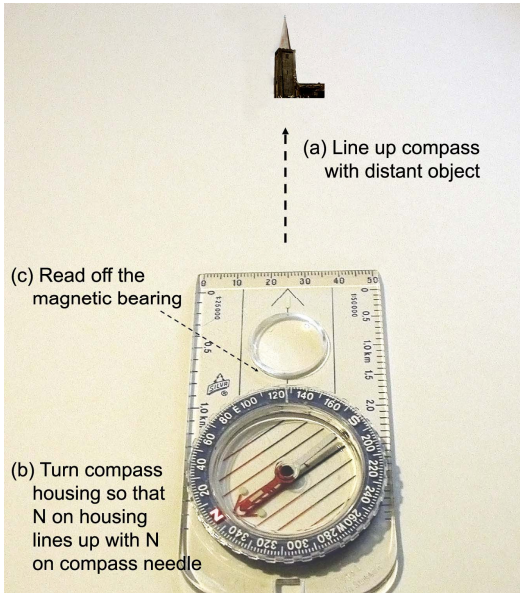
Sometimes you need to take a compass bearing of a distant feature and convert it to a grid bearing, often to pinpoint your position.

(a) Point the direction of travel arrow on the base of the compass at the distant feature

(b) Hold the compass steady and turn the compass housing until the orienting arrow on the housing lines up with the red (N) end of the compass needle

(c) Read the compass to get the Magnetic Bearing

(d) SUBTRACT the Magnetic Deviation to get the Grid Bearing, and set this on the compass



5.5.3 To Locate Your Position

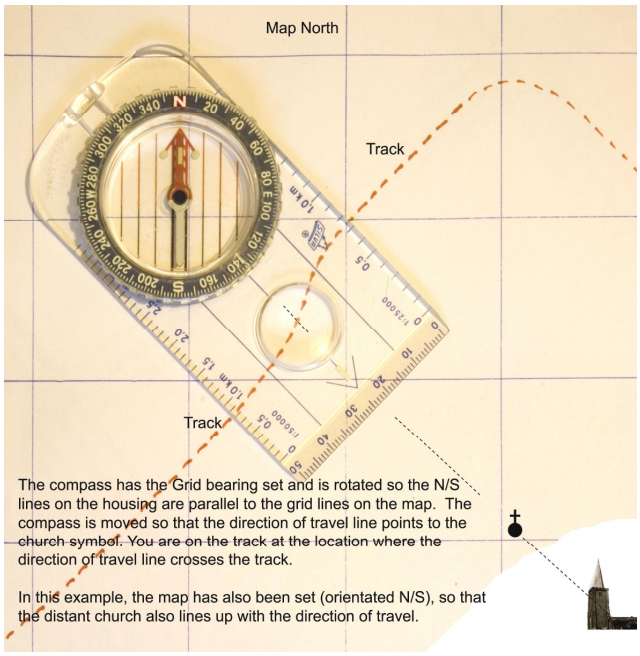
(a) Back Bearings

If you are on a known track and can identify a distant feature which appears on the map, you can use a back bearing to locate your position.

With the compass set to the Grid bearing of the distant feature (as described above), place the compass on the map and turn it so that the N-S orienting lines on the compass housing are parallel with the N-S grid lines on the map.

Now line it up with the distant feature making sure the direction of travel arrow is pointing towards the distant feature.

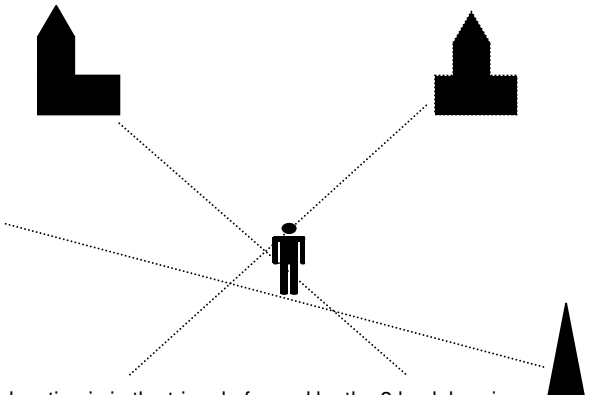
You are at the point where the line of the compass crosses the path on the map.



(b) Resection

Use this when you aren't on a known track. Find 3 distant objects in sight that you can identify – it's best if they are about 100° apart from each other. This method still works with 2 distant objects but is less accurate.

Take a single back bearing from each of the distant objects and draw each of the back bearings separately on the map. Three back bearings will form a small triangle on the map (the size of the triangle will depend on how accurately you measure the back bearings). Your approximate location should be inside this triangle.



Your location is in the triangle formed by the 3 back bearings taken on each of the 3 distant, identifiable features

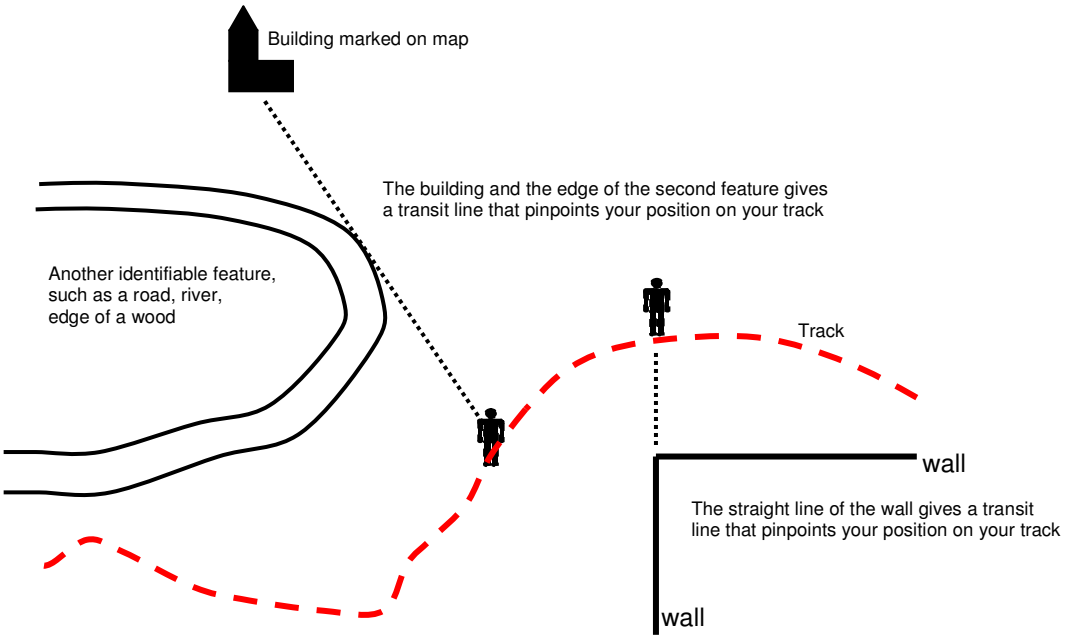
Obviously, you must correctly identify the distant features on the map!

(c) Transit Lines

You can fix your position on the map by lining up two features that you can identify.

These features can be objects or linear features such as walls. As you walk along the track, these objects will only line up in one spot. Lining up these objects give you transit lines that let you pinpoint your position on your track.

Some large straight-line features can also be used – such as walls and sections of road.



Keep your eyes open for sight lines that fix your position

6 PLANNING THE ROUTE / KEEPING TO TIME

6.1 Route Plans

Route Plans are made out before a walk into Adventurous Country for two reasons:

1. So that a copy can be left with a responsible person who will contact the rescue services if something goes wrong. It contains necessary information such as numbers in the party and home contacts.

2. It makes sure that you have properly planned the route, thought about the time it will take, planned your escape routes and checked the weather forecast.

3. Gives the expected times for each leg of the journey (an assessor will judge performance on how well a team keeps to the planned times)

4. Bearings written on Route Plans should be Magnetic Bearings.

An example of a Route Plan is in the Appendices

6.2 Estimating Journey Times)

A good starting point is "Naismith's Rule". This estimates the journey time at 5km per hour plus 1 minute for every 10m of ascent. In practice, a more realistic estimate for young persons is 3km per hour, particularly in rough terrain.

This is not as complicated as it sounds:

(a) Using the map, measure the distance of each leg to be walked. Walking at 5kph means that it takes 12 minutes to walk a kilometre. So if a leg is 1½km, then the travel time is 18 minutes. The same distance at 3kph is 30 minutes.

(b) In hilly country, where each contour line is 10m apart, count the number of contour lines crossed going uphill. Add 1 minute for every contour line you count. So if you climb a total of 10 contour lines going up (ignore descents), then add 10 minutes.

(c) Add the travel time (a) and the ascent time (b) to get the total travel time (18 +10 minutes = 28 minutes in our example of walking at 5kph)

(d) You need to adjust the time if the party has a slow member, if the terrain is difficult, or if you are backpacking heavy loads. Stopping to read the map, adjust rucksacks, have a drink or snack will slow the party down. Bad weather including strong headwinds will also slow you down.

6.3 When Walking – Estimating Distance Travelled

It is important to keep a lookout and to recognise landmarks as you travel to make sure you know where you are.

6.3.1 By Elapsed Time

Estimate the distance travelled by checking on the time that has passed since the last known landmark.

If you have kept walking without stopping for 20 minutes since the last known landmark, you will have travelled between 1km and 1¾km, depending on your speed. This is why it is essential to check the time on your watch.

Don't keep walking if you fail to pick up the next landmark. Stop and work out roughly where you are. Check you are still on the right route. Work out how you can check your position – is there another landmark?

6.3.2 By Counting Paces

Counting paces is an important technique and can be very accurate. But it is only suitable for short distances – say up to 300m.

You must already know how many double paces you take to walk 100m (a double pace counts one every time your right foot hits the ground). For many people it will be around 65 double paces for 100m, but it will be more than that when carrying heavy packs, going uphill or over difficult ground, or in bad weather.

6.4 Hill Walking – Practical

You may think that because you have been walking all your lives that you can manage it all easily. This is not the case, as all novices have a tendency to walk too fast at the beginning of a route, to slow down and stop when going uphill and not pay enough attention to where they are putting their feet.

More time can be lost by map-reading mistakes, frequent or overly long stops than by walking slowly and steadily.

Here are a few simple guidelines you should try and apply:

1. Footware – reliable, strong boots with ankle protection.
2. Keep a steady even pace while walking; slow down and keep a steady pace when going uphill.
3. Walk at the pace of the slowest member; it is dispiriting for the slowest to catch up only to find the others immediately charging off ahead again.
4. Keep the party together. Be aware of those behind you – they may have stopped to tie shoelaces. It is dangerous for parties to get split.
5. Keep a close eye on the route, checking off landmarks as you go. Two people should do the map reading – don't just leave it to one map reader.
6. Watch where you place your feet on every step. A twisted ankle can be dangerous when you are miles from anywhere.
7. Stay on footpaths – it is nearly always much quicker and safer than cross country.

7 CAMP CRAFT

"Take only Photographs, leave only Footprints".

Incompetent or inconsiderate camping can do irreparable harm to the environment.

When you leave the camp site, the only sign that you have camped there should be a patch of flattened grass where the tent has been – certainly no rubbish, bits of food or burnt grass. Take your rubbish with you and dispose of it in a dustbin (or take it home).

Ideally, you will have a choice of where to pitch your tent; with facilities such as drinking water close by.

7.1 Where to pitch the tent?

Walk around the site – Consider what might happen if the weather is bad overnight. Are there streams nearby which might flood? In some areas, a small stream can rise several feet very quickly in heavy rain. Is the ground soggy or is there evidence of previous flooding? Which is the best side to camp if the stream becomes impassable?

Look for shelter from the prevailing weather, such as stone walls, but beware of camping too close to trees that may shed branches in a storm. Whilst trees may provide some shelter from rain, drops falling from trees tend to be bigger and are more likely to penetrate the tent material.

1. Choose your area – ideally a flat open area, free of lumps, bumps, tussocks, boulders. A site that is screened from the prevailing weather, away from noisy neighbours (and footpaths full of night-time revellers).

2. Consider pitching the tail of the tent into the wind. Where will the sun rise in the morning? If the tent will be in the shade, you will find that any condensation on the tent will linger much longer than if you are in a spot where the sun catches the tent early on.

3. Unless the grass is soft and free of rough bits, pitch the tent on a survival bag to protect the groundsheet.

4. Ideally, pitch the tent so that your head is slightly higher than your feet.

5. If the ground is too hard to get pegs well in, look for ways of bracing them (e.g. heavy stones/logs on top).

6. If the ground is muddy, consider putting plastic bags in the porch as a doormat to stop mud getting in the tent. You can use the plastic bags as 'slippers' if you need to get up in the middle of the night!

7. Look for a safe place for the stove, away from the tent. A large flat stone may be ideal if it means the stove is level, stable and cannot be accidentally knocked over. Do not use anything you may trip over particularly where spilled boiling water may cause injury (e.g. a camping mat).

8. Keep the campsite tidy at all times so that a sudden shower of rain doesn't mean your belongings get wet (or have to be thrown into the tent quickly and in a mess!)

9. It is a good idea to boil a kettle to make hot drinks as soon as possible – perhaps while others put up the tents.

10. Work together so that food is being cooked in plenty of time before it gets dark, giving you time to clean up and enjoy the evening before it's time for bed.

11. Beware of any animals that might interfere with the camp – do not leave food out (or your dirty pans) where foxes or other wildlife can get at it overnight.

8 EQUIPMENT

8.1 Packing Rucsacks

Some simple rules.

1. Do not buy a bigger rucksack than you need – 65 litres should be sufficient

2. Do not pack anything that is unnecessary, so as to minimise the weight.

3. The total load (including water, food, fuel) should not exceed 1/3rd of body weight and for young people, 15kg should be regarded as the maximum.

4. Arrange things that you may need in a hurry (waterproofs, lunch, water bottle, maps, 1st aid kit) near the top where they are accessible.

5. Heavy items should be as high as possible, and close to your back (avoiding uncomfortable sharp edges) and well balanced.

6. The stove and fuel (particularly meths) should be packed in a separate polythene bag and kept well away from food and clothing.

7. All clothing and your sleeping bag should be in a separate polythene bag (and everything that needs to be kept dry kept in a rucksack liner bag)

8. All gear should be held inside the rucksack. The camping mat is often a problem, but this can sometimes fit within the rucksack if the roll is opened up so that it fits tightly against the rucksack leaving room for the liner bag (and its contents) inside.

9. When packed, the rucksack should sit comfortably, with the load close to the body and the straps adjusted to fit close to the back. The waist belt should sit comfortably around the top of the hips (the weight should be supported mainly on the hips). The shoulder straps should be padded and well-fitted so that you can place your hands under them.

8.2 Back Packing Tents

A tent is just a temporary shelter that needs to be waterproof, windproof and reliable. For backpacking, it must also be lightweight and easy to put up. Typically for a low altitude tent, the weight should be less than 2kg for each person it sleeps. Provided that you do not have to pitch above the tree line, the shape of the tent is not too important.

There is no ideal tent, but different styles are produced, such as hoop or dome tents. Whatever tent you use – practice so that you can put it up quickly. Whichever style of tent, the main factors are:

Waterproof
Most tents are not totally waterproof under the worst conditions, particularly if they are old. Cotton tents must be re-proofed regularly: nylon tents tend to leak round the seams – so avoid a design with lots of seams. Condensation in nylon tents is a problem: make sure there are ventilation panels. Never cook inside the tent.

Windproof
A sewn in groundsheet is essential. The fly sheet should reach close to the ground all the way round the tent. The shape of the tent should shed the wind - avoid tents with high upright sides, and pitch the tent in the most streamlined direction to the wind.

Weight
Lightweight tents are made out of thin material, particularly the groundsheet. This is easily damaged, and will then tend to let in damp from the ground. Carry a bit of plastic sheet, or use a survival bag, to use as protection underneath the groundsheet. Aluminium pegs are much lighter than steel pegs.

Packed Size
Most modern tents are not bulky when packed, but it is helpful if the tent can be split up so it can be shared. The poles are the most awkward item – check these are not too long to fit inside the rucksack. You are likely to lose them if you carry them outside!

Size Erected
- Inner There must be enough room for the number of people in the tent to live together in comfort, including space for kit. Check you can sit up in it.

- Outer There should be a porch area large enough to store items like your rucksack, boots, waterproofs, cooking equipment. You should be able to arrange the flaps to make it easy to get in and out, and to stop the wind.

Pitching
Ease of pitching in the wind and rain is important. It is helpful if it is possible to put up the outer first, to keep the inner dry. The fewer the number of pegs needed, the better.

In general the best backpacking tents is a compromise between all these factors. If a tent is to be used above the tree-line, then considerations of robustness and wind resistance tend to outweigh those of weight and packed size.

8.3 Sleeping Bags

As with other equipment, you need to decide what conditions you are going to use the sleeping bag in. The main factor is, of course, price. This is determined mainly by:

- Quality
- Number of seasons
- Synthetic or feather/down
- Features in the bag

Quality

This often goes with the features. Check the stitching and the construction of the sleeping bag. Sleeping bags with zips are more expensive than those without, but easier to get in and out of. Most zipped bags let you open the zip from the bottom as well as the top to help with ventilation. The better bags have baffles and are not sewn through (which leads to cold spots). Draw cords around the shoulders/neck help, but are something else to go wrong. A good hood on the bag is another good sign.

Some manufacturers supply bags in different sizes – don't buy a bag which is too big!

Number of Seasons

Do not go for a sleeping bag which is unnecessarily warm. Most times you will use a sleeping bag is in the spring/summer/autumn – so a 3 season bag is quite adequate. You may need a warmer bag if you intend to do a lot of winter camping, but is otherwise a waste. You also finish up with a bag which is heavier and too hot.

For warmth and comfort, invest in a good quality camping mat – consider wearing thermals or getting a liner bag if you are cold!

Synthetic or Down

Down bags are often mixtures of down and feathers. A feather and down bag is mostly feathers. It is cheaper than a down and feathers, and much cheaper than a pure down bag. These tend to last longer than synthetic bags, but there is not much in it these days. A synthetic bag will still keep you warm when it gets wet, but a soggy down bag is cold!

The main disadvantage of a synthetic bag is that they may not pack down to such a small size as an equivalent down bag. However, some synthetic bags now coming on the market with new insulation materials, do pack small and are light, rather than the older style of material

It is essential to look at the packed size of the sleeping bag, to check it can be fitted inside your rucksack without taking up too much room. You can buy sleeping bag compressors (sometimes supplied as standard) which squeeze the bag, but again the down bags tend to compress more than synthetic bags.

Care of your Sleeping Bag

- Don't pack it away in its little bag, but in a large bag so that the insulation can expand. The bag will lose vital insulation qualities if it is stored too tightly packed.
- Keep your bag clean – one way is to use a sleeping bag liner. This also adds some insulation qualities

8.4 Backpacking Kit List for Summer

The following kit list is for two (or three) people backpacking and sharing a tent. Some items can be shared (e.g. the tent – one person takes the inner and poles, the other takes the outer and pegs).

The maximum weight to be carried should be less than 15kg including all water, fuel, food and spare items, or no more one third of bodyweight.

8.4.1 Items to be worn (or near at hand)

Personal

Money	In rucksack when you start walking
Emergency card	Plus pencil
Watch	
Whistle	For emergencies only
Trousers	Should be windproof and warm. Not jeans!
Underwear	Tee shirt, pants
Shirt	Long sleeved
Fibre pile	A woollen sweater will do, but a fibre pile is more windproof
Hat/gloves	A sun hat in summer/warm hat other times. Can be cold on tops
Gaiters	If owned
Socks	Normally a thin pair of inner socks and thick outer socks
Boots	Must be comfortable, waterproof and give good ankle support. Must have good soles with plenty of tread

Group Kit

Compass	Ideally, everyone should have a map & compass
Map & Map case	The group should carry a spare map

8.4.2 Items Carried (in Rucksack)

Personal Kit

Rucsack	With a liner bag inside for spare clothing
First Aid kit	Personal first aid kit
Sun cream etc.	Sun cream if hot, insect repellent if midges are about!
Emergency Rations	E.g. 2 mars bars
Drink bottle	At least 0.75litre. More if hot or a strenuous day is planned
Waterproofs	Jacket and overtrousers
Spare clothes	Socks (inner/outer), trousers (tracksuit bottom), shorts, T shirt, light sweater, pants
Sleeping bag	In a separate waterproof polybag. A cotton inner keeps the bag clean & warmer
Foam mat	E.g. Karrimat
Toilet bag	Toilet paper (in plastic bag), toothbrush/paste, small soap bar, J cloth, small face towel
Torch	Plus spare battery/bulb
Bivi Bag	Can put under tent to protect groundsheet
Cutlery, plate, dish, mug	Mark outside of mug into Litres, Fluid Ozs to help with measuring amounts for cooking
Packed lunches	Beware of keeping food too long in warm weather

Group Kit

Breakfast/ Evening meals	Re-distribute shared equipment once these have been eaten
Water carrier	Empty wine bag is good
Lighter/Matches	
Tent	Shared
Trowel	If no toilets en route
Stove & Pans	
Washing up kit	J cloth, scouring pad, washing up liquid, small tea towel
Fuel bottle(s)	Keep away from food
Brew kit	Tea bags, sugar,coffee/choc. drink sachets. Dried milk powder
Repair kit	Needle/thread, cord, rubber bands, safety pins, plus poly bags for wet clothes. Swiss Army Knife (has a tin opener!)
Luxuries!	Camera, Note pad, Frisbee, pack of cards etc.

It is important to keep the weight as low as possible, so do not carry more than you need. For example, carry a tiny bar of soap, washing up liquid in a tiny plastic bottle.

Choose meals that cook quickly so use the minimum of fuel.

Water
There is a need to drink plenty of water during the day, but participants must avoid over-burdening themselves by carrying too much water. Every litre of water weighs a kilogram.

Drink plenty of water before you set out each day. Carry enough for your needs but remember that you will have access to water at campsites and may be able to pick water up during the day.

In hot weather for D of E expeditions, it is acceptable for Supervisors to re-supply water during the day at checkpoints.

Most Bronze and Silver expeditions in the UK take place at relatively low levels, in rural areas where there are grazing animals and agricultural fields. Streams in these areas may appear clean, but are most likely polluted – do not drink the water.

In remote areas, some streams may appear clean, but pollution from grazing animals has become a problem in areas such as Dartmoor. Any water taken must be boiled.

Gold expeditions operate in wild country, where re-supply may be more of a problem. In areas such as the Scottish highlands, where you may be above the levels of most grazing animals, water in streams and springs may be safe – but get advice before you start.

8.5 Stoves

Trangias are one well known make – there are METHS and GAS types:

Meths type is thirsty. The flame is invisible in sunlight - ALWAYS check the flame is out before you refill. Always re-fill in the open away from anything that is inflammable (like a tent!). There have been serious incidents when re-filling hot burners.

It is good practice to take two meths burners and the second burner is substituted for a hot burner that has just run dry instead of refilling the hot burner (which could be still alight). Some Operating Authorities may mandate that a second burner must be carried.

One way of minimising risks with meths is to set up a "fuel store" at the campsite. All the meths is to be kept in sealed containers at least 5 metres from the nearest tent or cooking area. Any refilling is to done near this fuel store area, and only then when the burner has been checked to make sure it is cool and not alight.

A safer but more expensive alternative to meths is a "fuel cell" which contains an inflammable gel. The fuel cells are used in place of the meths burner.

Both the meths and the gel blacken the cooking pans.

Gas cartridges of the re-sealable type (typically a mixture of butane and propane) are cleaner and, in my opinion, safer. The downside is that a cartridge may only be part-used at the end of a camp, and they cannot be re-filled.

It is strongly recommended to avoid using the "camping gaz" type of stove that uses cartridges of the type that are punctured when they are screwed into the burner (typically blue, butane) – incorrect use can turn these into flame throwers.

Make sure you have enough fuel

Remember to take a lighter (or long matches in waterproof container)

8.5.1 Safety

Cooking stoves are dangerous – use them CAREFULLY
Organise yourself before you start cooking
Take care where you place the stove to avoid knocking it over
Let cooking equipment cool before you pack it away

Never Cook Inside Your Tent

9 LIGHTWEIGHT COOKING

9.1 Planning

Work as a group
- Plan your menu for the whole trip
- Plan to eat the same things

Understand your food
- What do you need to cook it in?
- How long does it take to cook?
- What else do you need? (read the instructions before you go!)
- What do you need to measure? (mark your mug with measures)
- Make sure everyone likes the food chosen
- Share the meals between the group

Decide who will carry what - share the load

9.2 Food

Think about the food: Don't take more than you need – you have to carry it. Can you reduce the amount of packaging?
- Is it heavy? (tins are not a good idea)
- Will it break? (eggs are risky)
- Will it take a long time to cook?
- Will it stay fresh for the whole trip?
- Is it nutritious?
- Is there enough?
- Is it packed properly? (food packed ready for each meal is a good idea)

Balance your menu with things that give you energy - Chocolate, peanuts, fruit etc.
Don't forget the extras - cooking oil/lard, sugar, salt etc.
Don't forget the hot drinks - Sachet of dehydrated soup are good
You need lunches during the day. It's easier taking sandwiches or pitta bread and fillings than cooking.

9.3 Back-Packing Meals

Thought has to be given to:
- Nutrition
- Weight to be carried (food , drink, stove, fuel)
- Ease of cooking
- Cost
- Hygiene/Practicality

9.3.1 Nutrition

The meals throughout the day typically need to provide between 2500 to 3000kcals (for males) and 2000 to 2500kcals (females). Will be more if a lot of ascent is involved. Typically reckon on 30% of the daily intake at breakfast, 20% for lunchtime and 30% at the evening meal. The meals need to be balanced – sugars for instant energy and carbohydrates for longer term energy, fruit/vegetables, proteins and vitamins.

9.3.2 Weight

Avoid heavy/bulky packaging and meals where there is a high water content – much better to add the water when in camp rather than carrying it all day. Compare the weight of a sachet of dehydrated soup with that of a can of soup!

9.3.3 Ease of Cooking

Choose meals that are simple and quick to cook – long cooking times use up fuel that has to be carried or replaced. Look at the cooking times on the packets – these can vary surprisingly between different makes of what looks like the same food.

Avoid meals that need two or more components to be cooked in different pans – the first will be cold by the time the second is cooked. One way round this is where a group of 4 or even 8 have two cookers so that one team can cook the rice from two packets of, e.g. *'Vesta'* curry, and the second team cooks the two packets of rice.

BUT check that your saucepans are big enough (especially when cooking for groups). Beware of meals that require lots of boiling water – it's fine in a kitchen but takes ages on a simple burner at camp.

9.3.4 Cost

Dehydrated food tends to be expensive, but is designed to be lightweight and easy to cook. If you are camping for 2 days, then it may be sensible to choose a dehydrated meal for the second night. Check the calories in a de-hydrated meal.

Consider decanting measured quantities of food (such as pasta, muesli) into small sandwich bags at home. Remember to label them and write down the cooking times!

9.4 Hygiene

Take washing up liquid in small container, half a scouring pad

- Make sure equipment is clean before you go
- Always wash your hands after going to the toilet
- Always wash your hands before preparing food, and before washing / drying up
- Take materials to clean equipment after use – and use them!
- Don't leave pots and pans unwashed for bugs to breed!

Pack everything in plastic bags to avoid contamination.

9.5 Practicality

Remove excess packaging to cut down weight and bulk, but do keep the cooking instructions! Choose meals that leave the pans easy to clean (although even the cleanest meal can give problems if the chef lets the pan boil dry!)

Plan your meals throughout the day by thinking through what is left to carry, how you dispose of rubbish (carry a plastic bag for used packaging), and how to work as a team in cooking meals you will find enjoyable and nutritious. The group must work together and plan to carry the minimum number of cookers and fuel.

Check how well the food keeps when carried, especially if the weather is very hot. Consider alternatives to meat, such as cheese (fresh meat does not keep well). Mark the outside of your mug with the measuring quantities you need for your meals.

9.6 Sample Menus

Make up a 'Brew Kit' (tea, coffee) – use dried milk powder to save weight.

Breakfast
- Muesli (pre-prepared with dried milk powder in a sandwich bag – just add water)
- Cup of tea / coffee (stock up with sachets you find in cafes, hotels etc.)
- Orange drink (freeze dried orange juice, although I haven't seen it for ages)
- Buttered bread (can use the butter-wrapper to grease a frying pan later)
- Fry-up (bacon, eggs to go with the bread, on the first morning anyway)

[Bacon / eggs are heavy and can mess up the frying pan, but gives you a good start on a cold morning. Clean the pan by boiling water in it with a little washing-up liquid. Porridge is good on a cold morning – clean the pan by leaving it full of cold water for ½ hour.]

Mid-morning snack
- Drink
- Snack bar (e.g. Nutri Grain, flapjack)
- Dried fruit (you can buy re-sealable sachets of dried fruit ready to eat)
- Chocolate bar (not your emergency rations! Remember that sugar gives an instant energy uplift, but this is not sustained)

Lunch
- Sandwiches, or pitta bread/tortilla with paste
- Drink (cup of tea using stove or from flask if its a cold day)
- Apple (or more dried fruit)
- Snack bar

Afternoon Snack
- Same as for mid-morning

Evening Meal
- Curry and rice, or pasta with a sauce (marathon runners eat pasta!)
- Dried fruit and custard (the sort of custard made with water)

[De-hydrated meal for the last night, and instant mousse if the custard has lost its appeal]

Supper
Biscuits and cup of tea if you are still hungry!

You need to plan so that you finish up with nothing except your emergency rations. Anything left over was unnecessary. Plan according to the weather – you will need much more drink but less hot food in very hot weather.

10 FIRST AID IN REMOTE AREAS

10.1 Why Is First Aid In Remote Areas Different?

1. Remoteness - No Ambulance/Doctors or equipment within 15 minutes
- Evacuation difficult (Self help and/or mountain rescue teams)
- Lost (Sending for Help)

2. Weather - Shelter (Survival bag, Tent, or Survival Unit)
- Hypothermia – Wet, cold, and windy

3. Terrain - Rough Ground (Cliffs,/Rock climbing, accidents)
- Transport (Stretcher parties – Helicopters)

It's best if all the party members are trained in first aid.

10.2 Action To Be Taken If An Accident Occurs

Avoid personal injury and protect the uninjured members of the party.
Assess the casualty, then treat the casualty:

If Unconscious:

- **A**irway – check airway is clear
- **B**reathing – check patient is breathing, if so place in Recovery position
- **C**irculation – check heart is beating regularly (if not, try resuscitation)

If Conscious:

- Examine/talk to patient to find out what is wrong
- Stop any bleeding by applying pressure/raising limb (use hankerchief or dressing)
- Do not move the patient if spinal injuries are suspected, Otherwise make comfortable
- Keep patient Warm/Dry (clothes, survival bag). Make shelter/immobilise fractures
- Write notes – time/place, what happened. Note level of consciousness

10.3 Get Help

1. Try to attract attention (shout, whistle blasts, torch flashing). Distress signal is:
   - 6 blasts on whistle/torch flashes in quick succession, repeat after a 1 minute
   - SOS – 3 short, 3 long, 3 short
   - Distress Flare / Strobes
   - Spread out survival bag to draw attention

2. Do not leave casualty alone. If you have to send help, send 2 party members, leaving at least one fit person with the casualty.

3. Send for help to a telephone and dialling 999 and ask for police (they will call out the appropriate rescue team). Police require the following information:
   - Exact location (grid ref./description, compass bearings)
   - Time of accident
   - Nature of accident and injuries, including pulse rate and rhythm

- Number and experience of members of the party.
- Stay at telephone until help arrives

10.4 While Waiting For Help To Arrive

Check condition of rest of party

- Don't let them fall victim to hypothermia
- Keep everyone occupied
- Make sure no one else gets injured

Carry on first aid to injured casualty, particularly re-assurance.

Remember Help can take a very long time to arrive in remote areas.

- Don't do anything you're not fully sure about, it could cause more harm than good
- Do keep the victim warm and re-assure him or her

10.5 Hypothermia Or Exposure

This occurs when the internal body temperature falls to a dangerous level

Three main external causes of Body Cooling:

- Cold
- Wet
- Windy

Two main personal causes of body cooling

- Inadequate Clothing
- Insufficient Energy Foods

Plus Other Factors such as:

- Tiredness
- Lack Of Fitness

10.6 Signs Of Hypothermia

- Cold & discomfort, maybe cramp
- Unusually Quiet and Non-reactive
- Pale and Clammy
- Slow and Stumbling
- Lack of Coordination
- Unreasonable Behaviour
- Slurred Speech
- Violent Fits of Shivering
- Cannot See Properly
- Dizziness
- Faintness, Unconsciousness

ONE OR TWO SIGNS – AN INDICATION
THREE OR MORE - A CERTAINTY

10.7 Treatment Of Hypothermia

Stop

1. Take shelter, remove wet clothes if dry ones available, cover up
   Do Not - Use Hot water bottles
   " " - Rub the skin
   " " - Give alcohol
2. Put casualty in a sleeping bag – Protect in a tent or survival bag – with someone else
3. Give sugar rich foods and hot sweet drinks (if conscious)
4. If unconscious, place in recovery position
5. If stops breathing – give mouth to mouth resuscitation
6. Send two people for help
7. Wait for help to arrive
8. Look after rest of party

Emergency Procedures

As soon as accident or emergency occurs:

1. Stop and stay together whilst Leader assesses the situation
2. Keep calm
3. Avoid further incidents – Only move casualty if in more danger
4. Give First Aid:
   - Assess Situation
   - Preserve Life:
     - If casualty is Unconscious, check **A**irway, **B**reathing, **C**irculation
     - If casualty Conscious, check level of consciousness, bleeding, fractures
     - Treat for Shock and other injuries
5. Make comfortable
6. Write down notes of accident, injuries on Emergency Card
7. Send for Help as soon as possible (2 people, with Emergency Card with details Dial 999 and ask for Police
8. Rest give Distress signal, make sure are safe and comfortable, and Wait
9. Telephone Emergency Home Contact

11 ACCESS AND CONSERVATION

- All land, even in National Parks, is generally owned by someone
- You can travel on public footpaths, and bridleways, but Access to open land depends on the owners giving permission.
- Access is generally conditional (obey the Byelaws) and is at risk if abused. Access is sometimes closed, for example on military ranges during firing times or where there is a fire hazard.
- Owners like the Forestry Commission, Nature Reserves, The National Trust are generally happy for young people to run expeditions but sometimes permission has to be obtained. This is the case in the New Forest; it doesn't cost anything and can make life a lot easier.
- Remember that owners, the farmers who work this land have to make a living from it – this covers crops (like grass), sheep, grouse
- Many areas are nature reserves for rare birds, flowers, reptiles or mammals and Conservation is very important
- The large number of people hiking in open countryside can cause problems – erosion, accidental fires, disturbing nesting birds, sheep in the lambing season, litter, water pollution.
- Travel to the hills can cause problems just by the amount of car parking

11.1 Minimising the Impact on Open Country:

- Do not drive vehicles more than 15 yards off the roads, park sensibly to allow farm traffic to pass, close gates.
- Erosion is a problem, tread carefully and keep on paths where these are obvious
- Dry stone walls and fences are very important and are easily damaged by climbing over them – use gates or stiles
- Litter is not only unsightly – it can kill (e.g. plastic bag in the throat of an animal). Take all litter home – don't burn it or bury it.
- Fires started accidentally can wreck large areas of moorland or woodland for many years. Common causes of fires are cigarette ends, cooking stoves, burning rubbish, bottles / broken glass (acting as magnifying glass in the sun)
- It can be a criminal offence to disturb nesting/young birds or to pick wild flowers. Handling a young lamb can cause the mother to reject it.
- Camping – make sure that you leave the campsite clean. Don't dig drainage ditches around tents. Put any boulders moved back into their original positions
- Pollution – you must not camp in the immediate catchment area of water reservoirs. All washing must be done away from sources of drinking water. Don't empty foul water into clean streams but on to the soil, (which filters it)
- Toilet waste must be buried in a hole at least 15cm (6 inches) deep so that animals do not dig it up and bacteria can break it down (it can take a year to degrade!)
- Toilet areas must be at least 30metres from running water and 50metres from paths (and be downstream)
- Always boil your drinking water, even from clean streams!

TAKE NOTHING BUT PHOTOS, LEAVE NOTHING BUT FOOTPRINTS

11.2 Country Code

The original Country Code has been updated following the introduction of the Countryside and Rights of Way Act 2000, and is now known as the Countryside Code.

1. Be safe – plan ahead, and follow any signs
Even when going out locally, it's best to get the latest information about where and when you can go; for example, your rights to go onto some areas of open land may be restricted while work is carried out, for safety reasons or during breeding seasons. Follow advice and local signs, and be prepared for the unexpected

2. Leave gates and property as you find them
Please respect the working life of the countryside, as our actions can affect people's livelihoods, our heritage, and the safety and welfare of animals and ourselves

3. Protect plants and animals, and take your litter home
We have a responsibility to protect our countryside now and for future generations, so make sure you don't harm animals, birds, plants or trees

4. Keep dogs under close control
The countryside is a great place to exercise dogs, but it's every owner's duty to make sure their dog is not a danger or nuisance to farm animals, wildlife or other people

5. Consider other people
Showing consideration and respect for other people makes the countryside a pleasant environment for everyone – at home, at work and at leisure

The original Country Code was more prescriptive:

1. Do not light fires
2. Fasten all gates
3. Keep dogs under control
4. Keep to paths unless there is free access
5. Avoid damaging fences, hedges and walls
6. Leave no litter
7. Protect wildlife, wild plants and trees
8. Go carefully on country roads
9. Respect the life of the countryside
10. Safeguard water supplies

12 PROJECT IDEAS

The following are potential projects, mainly geared towards Dartmoor.

Water

Man's use of water - leats, reservoirs, rivers, crossing places (fords, bridges)

Industry

Lead, copper, tin mining. Quarrying stone, China Clay extraction. Farming

Art & Photography

Portrait of a National Park

Routeways

Ancient tracks e.g. Abbots Way, and long distance paths e.g. Two Moors Way

Tourism

- for the walker - campsites, footpaths
- for the horse-rider - bridleways
- for mountain bikers - routes
- for tourists - the 'honeypots'

Environment

Wildlife, soil & vegetation studies, rivers and leats

Literary

Study an author who has written books on or about Dartmoor (e.g. Sir Arthur Conan Doyle - Hound of the Baskervilles?)

Cultural Landscape

Look at the villages in the expedition area. What are their similarities and their differences? Are they related to each other in any way? (Look at their street names, for instance).

Effects of Geology on Vegetation

The vegetation differs greatly in areas that are predominantly chalk, clay or loam. Different soil types affect the vegetation and the way farmland is put to use.

A Study of he Historical Background of an Area

Battles, industry, famous people who lived there. Aircraft wrecks from war years

Effect of Man on the Environment over the Ages

Look at bronze age dwellings and other ancient remains, mining (ancient and recent), areas used by the military, railways, tourists.

Surveys

Of castles, caves, inns, trees, animals, ancient monuments, dry stone walls …

13 WEATHER IN THE HILLS

13.1 Who Needs Weather Forecasting?

- Shipping, fishermen, oil rigs, farmers
- Transport authorities (e.g. whether to grit the roads in winter)
- National Grid (will people need electric fires)
- Supermarkets (ice cream if it's going to be sunny!)
- Tourists (indoor entertainment if it's going to be wet)
- Hill walkers and climbers - for safety and enjoyment
- That means just about everyone!

All Hill walkers need to:

- **Know the Forecast**
- **Understand it**
- **Be aware of how the hills can change the weather**

13.2 Weather on British Hills

1. Weather in Britain is highly changeable - much more so than many other places
2. We take it so much for granted that it's a continual source of conversation
3. Mountains accentuate these changes
4. Weather in mountains can change very quickly, turning a simple walk into a fight for safety
5. This changeability makes British mountains a dangerous place. At the same heights, the British climate is very much harsher than almost anywhere else
6. Winter conditions in British mountains are hazardous, and closer to Arctic conditions than Alpine conditions
7. Best conditions tend to be in May, June, September, but can get good conditions in late February and early March (ref. 'Mountain Weather For Climbers' by Unwin)
8. Wettest months are August, October, November, December

13.3 Weather - Movement of Air Masses

The majority of our weather comes from the West and SW (at least 75%). Most summer weather comes with air streams from over the sea, leading to rain.

The junctions where these air streams meet become zones of rapidly changing air character, in 3 dimensions. Warm air streams overtake cold air streams (leading to Warm Fronts) and cold air streams overtake warm air streams (Cold Fronts).
Need to look at weather charts to see this.

13.4 Weather Forecasts

13.4.1 Safety

Can get sudden mist, heavy rain (or even snow in May on high ground). Must have:

- good navigation
- suitable clothing and equipment (e.g. spare map, hat, gloves)

Shelter

- Camp early if necessary, or find escape route (and phone home contact)
- keep warm , dry, shelter from worst of weather,

Choose a better route
- consider choosing a route with backs to wind as much as possible
- move into lee of hill to avoid winds

13.4.2 Sources of Weather Forecasts
- Local Weatherline numbers
- TV Forecasts (but these are mostly general, for low levels)
- Newspapers
- Local sources (e.g. National Park Information Centres or Activity Centres
- Websites like www.met-office.gov.uk or www.uk.weather.com or www.metcheck.com

It is always good practice to visit local information centres to enquire on local weather and other local conditions when first arriving in area (e.g. National Park information office, Plas Y Brenin activity centre). Ask about conditions - e.g. are rivers in spate (it may be dry now, but have previously rained heavily)

13.5 Weather - Effect of Hills

Colder on Tops
- Temperature drops by about 1°C per 150 metres as ascent ("Lapse Rate") (Study at Ben Nevis showed the top was 8.6°C colder than nearby Fort William, it had twice (2x) the rainfall and only two thirds (2/3) of the sunshine at Fort William.

Wetter on Tops
- Drop in temperature takes air below Dew Point, and rain falls (mainly on Windward side and Top)

Windier on Tops
- The air stream is squeezed as it rises over the top, so goes faster. Wind speeds can double, also beware of winds being funnelled by shape of hills
- Note that the wind drops off fast as you move to the lee of the hill (also get an eddy in lee of hill)

Misty on Tops
- Clouds tend to form around hills. A local mountain forecast will give the cloud base. Low clouds mean mist and restricted visibility. Good navigation is essential
- Mists are damp and cold

13.6 Windchill

The combination of lowered temperatures on tops and higher winds means that there may be severe Windchill. A sea level temperature of 10°C may reduce to near zero at 1000metres. A gentle breeze at sea level may be a fresh breeze on top.

The combined affect can make the wind chill equivalent to a still air temperature as low as -10°C!

And lastly, remember that every Silver Lining has a Cloud!

If it is hot and sunny, beware effects of heat (climbing with a heavy pack) and sunburn (clear air, and heat reflected from rocks). You will need plenty to drink.

So be prepared - and enjoy your walk!

13.7 Weather Changes as a Depression Passes [4]

The level of detail in this section and the next is more than is needed, but it may be useful reference material. Most people are well aware of bad weather approaching: clouds get increasingly heavy, lower and darker, and often the wind becomes stronger. You may sense a change in temperature.

Stage	*Pressure*	*Wind*	*Temperature*	*Other*
Depression approaching	fall begins	"backs" anti-clockwise (against sun)		*cirrus* and *cirrostratus* cloud appear
before warm front	acceleratin g fall	increases	steady, or slow rise	*cirrus, cirrostratus, altostratus* and *nimbostratus* with gradual onset of continuous rain
at warm front	fall ceases	winds "veer" clockwise (with the sun)	rise	low *nimbostratus*, poor visibility mist and fog. Rain stops
in warm sector	steady or slow fall	steady	little change	*stratus* or *stratocumulus*. Cloudy especially on hills, with intermittent rain and poor visibility
before cold front	fall	some strengthening	steady	*altocumulus*, or *altostratus* then *cumulonimbus* often hidden by low stratus. Some rain,often thundery with poor visibility
at cold front	sudden rise often rapid	sudden veer with squalls	sudden fall	*cumulonimbus* giving heavy, often thundery rain or hail. Worse visibility followed by rapid improvement.
Behind cold front	slower rise	backs then steadies	slower fall	clear sky with good visibility except in showers

13.8 The Beaufort Wind Scale

Force	*Description and Specification*	*Average speed (km/hr)*
0	Calm; smoke rises vertically	0
1	Light air; direction of wind shown by smoke drift, but not by weather vanes	3
2	Light breeze; wind felt on face, leaves rustle and ordinary vanes move	9
3	Gentle breeze; leaves and small twigs in constant motion; wind extends light flags	17
4	Moderate breeze; raises dust and loose paper; small branches are moved	24
5	Fresh breeze; small trees in leaf sway, crested wavelets form on lakes	35
6	Strong breeze; large branches move, telegraph wires whistle, mountain walking difficult and uncomfortable	44
7	Near gale; whole trees in motion, progress very much affected by wind	56
8	Gale; breaks twigs off trees	69
9	Strong Gale; slight structural damage occurs	82
10 Storm } 11 Violent Storm } major structural damage even in lowlands 12 Hurricane }		

[4] from 'Mountain Weather for Climbers' by Unwin

14 LEADERS CHECKLIST

The following is intended as a checklist for a Leader who is responsible for leading, or supervising, a party on the hills.

Leaders must only take groups into the hills if properly authorised to do so. These authorisations should set out the limit the Leader can operate to (e.g. terrain) and are normally valid for a period of time, and often only whilst the Leader has a valid first aid certificate.

The Leader must operate within the limits of a valid authorisation.

14.1 Setting Out on A Hill-Walk

The Leader must:

- Carry out a Risk Assessment (an example is given in the Appendices)
- Check party members medical history (to have been provided on medical forms)
- Check weather forecast/sunset time – conditions can change dramatically during a long walk
- Estimate the expected duration and return time (distance, terrain, height climbed, weather)
- Check the choice of route is appropriate to the conditions and the party members
- Consider potential escape routes before setting out in case these are needed
- Leave a copy of the Route Plan and list of party members at the base camp
- Ensure the Emergency Home Contact has a list of party members and an appreciation of the activity
- The party members, and their parents/guardians, know who the Emergency Home Contact is and how to contact them
- Check members of the group are properly equipped
- Ensure that they themselves are properly equipped to carry out their Leader responsibilities
- Report in on return from a walk and formally report any incidents
- Not deviate from the Route Plan (unless circumstances dictate and then base camp should be contacted at the earliest opportunity to explain the changed plans)
- Not exceed the capabilities of the party members or the limits of their Authorisation
- For Duke of Edinburgh Award expeditions – check with the controlling Operating Authority that all the forms they require have been received.

14.2 Risk Assessment

The Leader must go through the thought processes:

(a) What reasonably foreseeable problems might there be?
(b) What preparations have I taken to avoid these potential problems

Bear in mind if an incident occurs, the Leader will be called on to explain his preparations and actions – to The Duke of Edinburgh's Award authorities, Scouting authorities, parents, mountain rescue, the police or, ultimately, a court.

The Leader should appoint a deputy in case they are incapacitated. If so, that deputy must be made known to all those involved in the expedition (Operating Authority, Home Contact, those on the expedition …)

This Risk Assessment could be a mental checklist for simple activities, but it is better to have a written copy to demonstrate that the activity has been properly prepared and carried out – an example is given in the Appendices.

14.3 Equipment

The Leader must check that the group members are properly equipped for the activity. Obviously, greater checking is needed for a long walk in mountainous country or where an overnight camp is involved than for a simple day hike at low level in fine weather on easy ground.

The Leader must carry additional equipment over and above that carried by the group members which is appropriate to the party, the route and the conditions – to cater for emergencies and to provide some margin of safety. The party, including the Leader, must have at least 2 maps and compasses. These are the primary navigation aids. A GPS/altimeter may be taken as secondary navigation aids only. Consider as may be advisable:

- Emergency equipment - spare map and compass, survival bag, mobile phone, group first aid kit, torch, group shelter, strobe (or flares)
- Extra Safety - extra water in hot weather, hot drink in cold weather, extra emergency rations and additional clothing such as hat/gloves or spare sweater depending on the conditions.
- Rope – the planned use of a rope is outside the remit of the authorisation, but a walking rope (at least 8.5mm x 30m long) may be sensible for confidence and emergency use in steep, rocky terrain (this is only likely when supervising Gold groups in Wild country).

14.4 During the Hill-Walk

During the hill walk, the Leader must navigate properly, exercise group control and good time management. The Leader must keep aware of changing conditions and the state of the party members.

When supervising a group, the Leader should be in a position to render assistance within a short period in the event of an incident. For this reason, the Leader should be familiar with the area so that he or she can judge where hazards exist, and close up to the group as circumstances dictate.

Ideally, the Leader and Assessor should pre-walk the route to be familiar with the terrain and the potential hazards.

15 RISK ASSESSMENT

Risk Assessment[5] is the process of looking at what could go wrong – both before and during an expedition – and taking steps that can prevent or minimise the chance of these problems occurring.

The party members themselves should carry out a risk assessment. One of the purposes of having a Route Plan is that by all the party members contributing to the Route Plan, then all the party members become familiar with the hazards and how these can be minimised.

The expedition leader/supervisor also needs to carry out a formal risk assessment. This individual should be able to draw on more resources and experience, so as to ensure sufficient protection is built into the venture.

The risk assessment process consists of 5 steps.

Step 1 – What are the hazards?
(A hazard is anything that could go wrong – like bad weather)

Step 2 – Who may be harmed by each hazard, and how may they be harmed
(could be any or specific party members, or 3rd parties in the area)

Step 3 – What is the chance of each hazard causing harm, and what precautions should be taken?

Step 4 – Record the assessment, and the precautions taken
(taking the precautions set out in this Handbook, like good use of map/compass
and being properly equipped, will protect against a number of hazards)

Step 5 – Keep the assessment up to date
(On expeditions over many days – does the experience of the previous day indicate additional precautions are needed?
For leaders repeating a previous expedition - have circumstances changed

An example Risk Assessment is shown overleaf. This should provide some guidance, but should not be taken as a generic risk assessment. Each expedition needs to do its own risk assessment. The risk assessment needs to cover:

Areas of Risk	Examples
• Travel to/from the expedition	Traffic incidents
• The daily hikes	See example overleaf
• Campsite	Bad weather, campsite full or closed, wet sleeping bag/clothes
• Cooking	Improperly cooked food, fire
• Project	Camera doesn't work

[5] The factsheet available from Scout HQ gives more explanation on carrying out a risk assessment – download from www.scoutbase.org.uk/library/hqdocs/facts/pdfs/fs120000.pdf

Risks are compounded when a number of the hazards combine (e.g. twisted ankle, weather deteriorates)

Keys

Likelihood:
1 = unlikely
2 = possible
3 = probable
4 = very likely
5 = certainty

Severity:
1 = minor first aid
2 = outside assistance
3 = self-evacuation
4 = assisted evacuation
5 = death

Mountain Walking

Hazard	Who May be Harmed	Likelihood (L)	Severity (S)	Overall (L x S)	Controls to reduce Risk
Path problem (landslide, broken bridge, cannot find or miss path)	Group	3	3	9	Walk round (use maps) / Navigation skills; Commonsense; Pre-planned alternate/escape routes
Stormy weather	Group	2	3	6	Weather forecast and ongoing observation; Clothing; Group control; Pre-planned alternate/escape routes
Dehydration	Group member	2	3	6	Carry sufficient water; Observation of group members; Weather forecast
Falling on uneven terrain	Group member	2	3	6	Group control; Not over-extending group members; Check party member footware for suitability wrt route
Major fall from height	Group member	1	5	5	Group control / Walking rope; Route selection / Party member selection; Check party member footware for suitability wrt route; First aid kit / Mobile phone; Pre-planned alternate/escape routes
Getting lost	Group	2	2	4	Map / Navigation skills/multiple navigators; Weather forecast (in case of mist) / ongoing observation; GPS/altimeter may be useful (secondary navigation aids), but a GPS doesn't work well under trees (or if the batteries are dead!)
Heavy mist	Group	2	2	4	Weather forecast / ongoing observation; Time management; Navigation skills; Pre-planned alternate/escape routes

Hazard	Who May be Harmed	Likelihood (L)	Severity (S)	Overall (L x S)	Controls to reduce Risk
Insect bites (severe adverse reaction)	Group member	2	2	4	Medical form / First Aid kit; Insect repellent/clothing Pre-planned alternate/escape routes
Group member taken ill	Group member	1	4	4	Check group & Medical forms before leaving First Aid kit Group control (member led to base camp) Pre-planned alternate/escape routes
Rock Fall	Group	1	4	4	Awareness of surroundings Group control
Hypo/Hyperthermia	Group member	1	3	3	Weather forecast Check party member clothing for suitability wrt environment. Observation of party members Hypothermia – treat urgently at first sign of symptoms Sunstroke – check hat / suncream / fluids
Very Severe Weather (high winds, heavy rain/hail, snowfall)	Group	1	3	3	Weather forecast / observation Navigation skills / Time management Check party member clothing is suitable for environment Evacuate via pre-planned escape routes
Fear of heights	Group member	1	3	3	Group control (member led to base camp) Observation of party members Pre walk briefing
Fire	Group	1	3	3	Prior investigation of prevailing conditions Observation
Misjudge journey time	Group	2	2	2	Preparation (incl. previously-walking the routes) Group control / Time management Pre-planned alternate/escape routes
Be-nighted	Group	1	2	2	Time management, Check sunset time Pre-planned alternate/escape routes Bivi Bags Mobile phone (to inform base) Emergency rations
Group gets split	Group	1	2	2	Group control Pre-agreed plan of action Multiple maps and navigators

16 THE NATIONAL PARKS OF ENGLAND AND WALES

The location of the National Parks of England and Wales are shown on the cover.

THE PEAK DISTRICT (1,438 sq km, 555 sq miles)
One third of the population lives within an hour of the Peak District National Park. Each year, over 22 million day visits are made to this unique landscape, distinctive for two quite separate sets of special qualities.

In the centre is the beautiful White Peak, with its deep limestone dales and undulating fields. To the north, east and west is the dramatic Dark Peak - peat moorlands cut across by edges of precipitous millstone grit, where heather and bracken predominate.
Rich in natural and cultural treasures, the Peak District National Park is a place of national and international importance.

LAKE DISTRICT (2,292 sq km, 885 sq miles)
The landscape at the edge of the Lake District National Park is softer and more rounded, in great contrast with the central areas, which are wild, rugged and dramatic. Sixteen lakes are arranged like spokes of a wheel in this heartland. This imposing landscape has rich literary and artistic associations. The area is visited by approximately 12 million people each year and is home to 42,000 people.

The 2,896km of public rights of way comprise splendid walking on the lakeside and challenging uphill gradients. Various courses are available at Brockhole, on Windermere, and at Blencathra, near Keswick.

SNOWDONIA (2,142 sq km, 827 sq miles)
The glaciers of the last Ice Age moulded the Snowdonia landscape of deep valleys and rugged mountains. Rivers, lakes and waterfalls, and remnants of ancient deciduous woodlands, are typical of the park, as is the coast, with its sandy bays, dunes and the three beautiful estuaries - Glaslyn/Dwyryd, Mawddach and Dyfi.

A rich variety of plants and wildlife mirrors the diversity of the landscape and the whole of the park is a stronghold of the Welsh language and way of life.
Archaeological remains from the Neolithic period, the Roman occupation and the Middle Ages survive through to those of the recent industrial past of gold, lead and copper mining, and slate quarrying on a grand scale.

DARTMOOR (954 sq km, 368 sq miles)
The 'last great southern wilderness' consists of two high boggy plateaus ringed by rocky tors, separated by the basin of the Upper Dart, which leaves the Moor, like all its companion rivers, in a deep, narrow gorge-like valley.

Heather and grass moorland, with valley woods, support a rich variety of wildlife, as well as the ponies, cattle and sheep of the hill farmers, who are mostly commoners. Dartmoor boasts the densest collection of Bronze Age remains in north west Europe, rich remains of a metal mining industry and the youngest castle in England. There are 33,000 people living in the park in small towns, villages and remote farmsteads.

PEMBROKESHIRE COAST (620 sq km, 240 sq miles)
Britain's only predominantly coastal national park, it is one of the smallest and most densely populated. It also contains one of the largest densities of specially protected sites in Europe. Rugged cliffs and islands, tree-lined estuaries and open moorland are all features of the area. Wild flowers flourish in the mild climate and there are famous seal and sea bird colonies. The park is also steeped in Welsh legends and a complex history.

The stunning coastline can be seen at its best from the spectacular coast path, a designated national trail, stretching 299km (186 miles) from north to south. Visitors spend the equivalent of one million days a year walking the path, and this facility alone brings an annual income of £14 million into the local economy.

NORTH YORK MOORS (1,432 sq km, (554 sq miles)
The largest expanse of continuous heather moorland in England clothes the plateau top, turning it in late summer into a tablecloth of vivid purple. Dissected by farmed dales, the whole area supports a wealthy wildlife. The eastern boundary is formed by 42km of coastline, where spectacular cliffs separate bays and fishing villages.

Red pantile roofs characterise the villages. Stone crosses punctuate the ridges. The cultural heritage is easily explored via the 1,609km of footpaths and bridleways. The Cleveland Way is a national trail of 174km from Helmsley to the coast.

YORKSHIRE DALES (1,769 sq km, 683 sq miles)
The Yorkshire Dales, sitting astride the central Pennine watershed, has been describe variously as wild, expansive, tranquil and, at times, awesome and bleak. Whatever the mood, the Dales unquestionably occupies the finest area of upland limestone country in Britain and possesses a unique combination of both related and contrasting landscape features.

Here is a sympathetic blend of pastoral valleys, delightful waterfalls, heather-covered grit-capped fells, flower-rich hay meadows, intricate patterns of dry-stone walls, field barns and stone villages. Exposed limestone cliffs, gorges, valley-side screes and a fretwork of limestone pavements, scraped clean by glacier ice, add a further dramatic dimension. Historic and Prehistoric remains abound, as do places to stay in each dale. The Pennine Way crosses the park from north to south.

EXMOOR (693 sq km, 268 sq miles)
The tallest sea cliffs in England form the northern boundary of this smallest moorland park. The grass moor of the erstwhile Royal Forest is surrounded by heather-covered hills and wooded combes. The Valley of the upper Exe separates Exmoor proper from the Brendon Hills at the eastern end of the park. Red deer and nightjar at the woodland edge, merlin and ring ousel out on the moor are representatives here of a rich diversity of wildlife.

Bronze-Age burials, Roman fortlets, ironworks and medieval castles bear witness to the work of the predecessors of the present day hill farmers who care for this splendid landscape. The South West Coastal Path - a national trail - runs along the northern edge of the park.

NORTHUMBERLAND (1,049 sq km, 405 sq miles)
This remote National Park is border country. There are wide expanses of wild, open moorland and dense forest between the England/Scotland border to the North, and Hadrian's Wall to the South.

Hadrian's Wall and its associated features form a World Heritage Site. In the Cheviot foothills and the Breamish Valley in particular, settlements and field systems from prehistoric through to medieval to modern times are superimposed, one upon another. The ruins of castles and bastles (fortified farmsteads) also bear witness to the troubled past. The Pennine Way runs the length of the park.

BRECON BEACONS (1,351 sq km, 519 sq miles)
The impressive ridge of old red sandstone, running from the border to Llandovery, dramatically separates rural mid-Wales from the industrial valleys of the southern coalfield. The set of ridges and valleys which is the Black Mountains in the east contrasts with the tall Beacons at the centre, and the heather-covered Black Mountain at the western end. Limestone ramparts provide a southern edge.

Farming has shaped the landscape over the centuries and Welsh cultural traditions are still strong. People have been living in the Brecon Beacons for more that 5,000 years and there is a strong sense of history evident in the ancient standing stones, cairns and buildings found across the park. The Offa's Dyke Path runs up the eastern boundary.

THE BROADS (303 sq km, 117 sq miles)
The Broads is Britain's largest protected wetland. Its fens, winding waterways, wet woodlands, grazing marshes, 40 broads or shallow lakes, and five rivers provide unique habitat for a huge range of rare species.

The best way to see this land is by water aboard a boat. Navigation has always been a crucial part of the Broads economy; formally for the many traders who plied the 200km of waterways and today for the visitors who enjoy the relaxation of a holiday afloat.
The Broads Authority looks after the area and its navigation. Its work includes restoring the wetland and promoting sustainable tourism.

THE NEW FOREST (580 sq km, 224 sq miles)
The forest proper has been protected since 1079AD and is managed by the Forestry Commission for the Crown. Verderers and commoners play a significant role in the management of the ponies and cattle, which roam the forest by ancient right. Plantation and ancient woodlands, surrounded by open heath, given way to small-scale farmland vital to the life of the Forest.

The area extends to the Solent coast - an Area of Outstanding Natural Beauty. Busy villages provide bases for easy exploration of this historic landscape.

THE SOUTH DOWNS
The South Downs are planned to become a National Park, although the boundaries are still being agreed.

APPENDIX 1

Requirements of The Scout Association

This section covers Scout expeditions. The Operating Authority may be The Scout Association, or it may be that scouts are doing a qualifying expedition where the Operating Authority is a Local Authority. In the latter case, the rules of both organisations must be followed. This is not normally a problem so long as the appropriate Local Authority is contacted in sufficient time for that authority's procedures, and an assessor acceptable to the authority is available.

The Scout Association's rules for hill-walking expeditions are set out in an over-arching document (chapter 9 of "Policy, Organisation and Rules"), supported by a series of Fact Sheets. The Scout Association sets out requirements for both the Leader (supervisor) and the Assessor, and rules for the safe conduct of the expedition by the party members.

These are accessible over the Web at:

www.scoutbase.org.uk/library/hqdocs/por and **www.scoutbase.org.uk/library/hqdocs/facts**

All Scout expeditions that require the participants to camp for at least one night must be supervised by a leader who has a Nights Away Permit. This is issued to leaders who have demonstrated they can run such activities safely[6].

The rules for safe conduct of the expedition follow good practice and are thus common between The Scout Association and the Duke of Edinburgh's Award scheme (party size, need for the group to be properly equipped and trained in navigation and so on.)
In common with Local Authorities, good practice requires:

- Risk Assessments to be completed for the expedition[7]
- Weather forecasts to be obtained before the expedition[8]

Contents

[6] Factsheet FS120431 "Nights Away Permit Scheme"
[7] Factsheet FS120000 "Activities – Risk Assessment
[8] Factsheet FS120088 "Weather Forecasts in Outdoor Activities"

ADVENTUROUS ACTIVITY PERMITS

For hill-walking, The Scout Association categorises the terrain for "adventurous activities" into:

Terrain Zero – this covers routes in open country which:

- are below 500 metres above sea level and do not involve any rocky scrambling, **and**
- are within 30 minutes travelling time from a road which can take an ordinary road-going ambulance **or** a building which is occupied (such as a farm) **or** another means of summoning help (such as a telephone box).

Terrain One - describes terrain which:

- is between 500 metres and 800 metres above sea level and in which the route does not involve any scrambling (although may pass over rocky / rough ground), **or**
- is more than 30 minutes but less than three hours travelling time from a road which can take an ordinary road-going ambulance **or** a building which is occupied (such as a farm) **or** another means of calling help (such as a telephone box).

Terrain Two – describes wild country which:

- is over 800 metres above sea level **or**;
- requires an element of scrambling **or**;
- lies more than three hours travelling time from a road which can take an ordinary road-going ambulance **or** a building which is occupied (such as a farm) **or** another means of calling help (such as a telephone box).

Most Bronze and Silver level expeditions are carried out in the UK, on foot in normal open countryside – Terrain Zero.

The Scout Association requires that for Hill-walking in Terrain One or Terrain Two, the Leader (and Assessor if an assessed expedition) must hold an Adventurous Activity Permit appropriate to the activity. Similarly, appropriate Permits are needed for leading / supervising canoeing or sailing expeditions on moving water or on large lakes. Permits are issued by The Scout Association following formal assessment of the individual[9].

This sets limits as to the location and level of expedition that the individual can lead or supervise. For hill-walking, it will limit the leader to parts of the country and terrain that he or she is considered competent in which to lead groups. For water-based expeditions, it will limit the leader to how many boats he or she can supervise and what sort of water conditions (e.g. inland, non-tidal, gentle moving water etc.)

A related approach applies where the Leader is brought in from a commercial organisation[10].

All Gold and some Silver expeditions will be carried out in wild country that requires the Leader (Supervisor) and Assessor to hold an Adventurous Activity Permit. The training and experience required of participants must also be to a higher level for them to cope safely with the demands of such expeditions.

[9] Factsheet FS120084 "Scout Led Activities Index"
[10] Factsheet FS120086 "Commercially Led Activities Index"

ROUTE PLANS

The Route Plan used by The Scout Association is shown below. This can be downloaded from: www.scoutbase.org.uk/library/hqdocs/facts/pdfs/fs120409.pdf

Route Plan

- To be completed in accordance with Policy, Organisation and Rules.
- Take a copy with you and leave a copy with a responsible local person - cancel on return.

Date: DAY ..... OF ..... OR ONE DAY

Map(s) Used:

Objective:

Magnetic Variation:

Place or Grid Reference	Magnetic Bearing	Distance (km)	Height Gained (m)	Description of Route	Est. Time for Leg	Total Time
START						
TO						
TO						
TO						
TO						
TO						
TO						
TO						
TO						
TO						
TOTALS						
Add 10 minutes per hour for safety				..... thus estimated total journey time		
START TIME				FINISH TIME OR REACH CAMP SITE		DARK AT

Escape Routes

(1) From .....

(2) From .....

(3) From .....

Use NAITHSMITH'S RULE - adjusted to suit the abilities of your particular party - to calculate the estimated timings for each leg. It is usual practice to add 10 minutes per hour for a rest ; again adjust timings to suit your party.

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Scouts	WEATHER FORECAST	EMERGENCIES
Scout Group	WIND: Speed/force ..... becoming ..... knots/mph at ..... metres Direction ..... TEMPERATURE: Sea level ..... °C becoming .....°C at ..... metres Cloud base ..... metres OUTLOOK:	Note: These notes are for those in the local area who have been handed a copy of this Route Plan. If the party fails to return by the agreed time please contact the first two listed below. If the Home Contact cannot be raised please telephone the appropriate Scout Headquarters' office.
		❶ Home Contact Name ..... Address ..... Telephone .....
	EQUIPMENT IN PARTY	❷ Police – 999
Deputy Leader	THIS LIST IS NOT INTENDED TO BE A COMPLETE ONE OF ALL THE EQUIPMENT (BOTH PERSONAL AND COMMUNAL) BUT MORE TO GIVE OTHERS AN INDICATION OF HOW THE PARTY IS EQUIPPED SHOULD THERE BE AN EMERGENCY. ITEMS MARKED * SHOULD BE CARRIED BY EACH MEMBER OF THE PARTY [BUT REMEMBER THAT THE EXACT DETAILS OF THE EQUIPMENT WILL BE DEPENDANT UPON YOUR OBJECTIVE AND THE DURATION OF THE JOURNEY].	❸ Scout Headquarters Duty Public Relations Officer: Office Hours: 0845 300 1818 Outside Office Hours: 020 7584 7031 *OR* if in Scotland: Office Hours: 01383 419073 Outside Office Hours: 01383 412704 *OR* if in Northern Ireland: Office Hours: 028 9049 2829 Outside Office Hours: 028 9336 7302
Other Party Members	*Insert numbers if appropriate:* ..... Maps [minimum of 2] ..... Compasses [minimum of 2] ..... *Waterproofs ..... *Spare Clothing ..... *Whistle ..... *Food/Drink [for journey] ..... First Aid Kit ..... Watch ..... *Emergency Card and Pencil ..... Torch ..... *Emergency Rations ..... Survival Bag(s) or Tent ..... *Ice Axe [winter conditions] ..... *Crampons[winter conditions] ..... Confidence Rope ..... Sleeping Bag or Duvet ..... Small Stove and Utensils ..... Matches [waterproof container]	

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ACTIVITY CONSENT & MEDICAL INFORMATION FORM

Example of form used within Wokingham District Scouts. Other authorities will have their own version.

Full Name and Address of Participant Post Code Scout Group / Unit	This Form **MUST** be completed by a Parent or Guardian if the Participant is under 18 years of age.
Date of Birth	

Name and Address of Next of Kin during the relevant period.

Name — Relationship

Address

	Telephone
Home	
Work	
Email	

Post Code

Name and Address of Doctor

Name

Address

Telephone

Post Code

Please give details of any current medical treatment including medication, use a separate sheet if necessary

Please give details of any medical conditions, use a separate sheet if necessary
e.g. diabetes, epilepsy etc / allergies to medication, anaesthetics etc

Date of last tetanus injection / /

Details of any special dietary requirements

STATEMENT

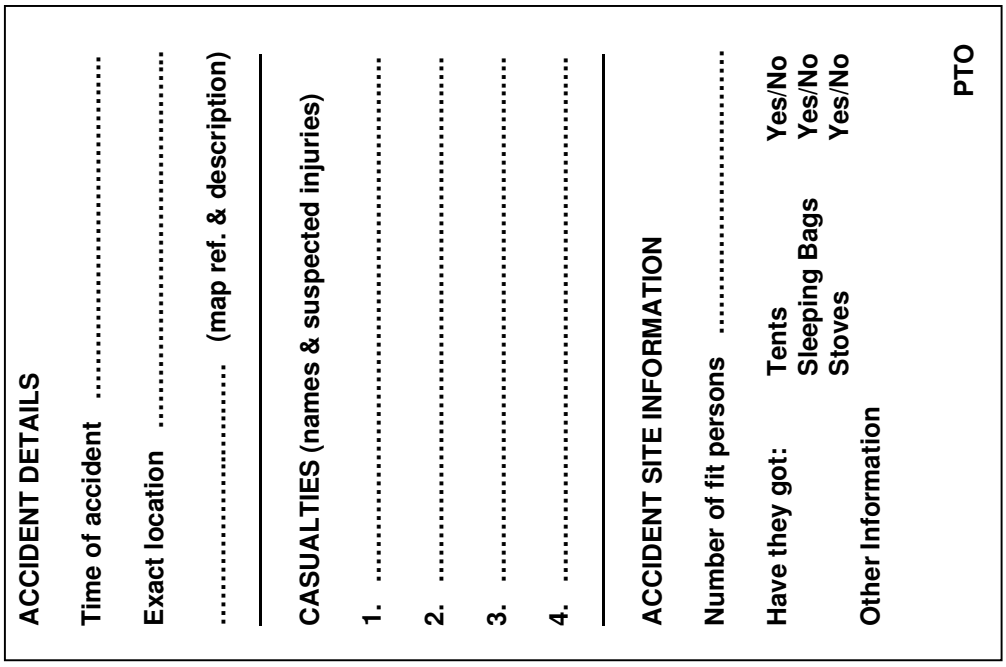
I consent to_____taking part in the proposed activities, which have been explained to me, during the period to . I undertake to inform the Leader of any changes in the fitness to the above named prior to the date of departure. I am in agreement that those in charge may give permission for the above named to receive treatment in an emergency and to administer treatments for minor illness/injury.

Signature **Relationship**

Date

EMERGENCY CARD

Example of emergency card carried by each member in a party as used by The Scout Association. These are normally sized to print 4 on an A4 page. [available from www.scoutbase.org.uk/library/hqdocs/facts/pdfs/fs120077.pdf]



EMERGENCY CARD

IN THE EVENT OF AN ACCIDENT

1. Remove party from immediate danger if any
2. Adminster first aid to casualties
3. Provide shelter for casualties
4. Fix position accurately
5. Decide easiest and quickest route for help
6. Complete this card
7. Send two people for help with this card
8. Dial 999 and obey instructions given by Emergency Services
9. Telephone Home Contact

Party Name .....

Local base .....

Telephone No. (if any) .....

Name of party leader .....

Name of Home Contact .....

Telephone No. .....

PTO

ACCIDENT DETAILS

Time of accident .....

Exact location .....

..... (map ref. & description)

CASUALTIES (names & suspected injuries)

1. .....
2. .....
3. .....
4. .....

ACCIDENT SITE INFORMATION

Number of fit persons .....

Have they got: Tents Yes/No
Sleeping Bags Yes/No
Stoves Yes/No

Other Information

PTO

EMERGENCY HOME CONTACT GUIDELINES

The following is specific to The Scout Association. Other organisations will have their own guidelines.

The Emergency Home Contact must be given details of the expedition – names and addresses, dates, contact numbers, transport arrangement, expected times of departure and return. The form below relates specifically to Scouts, but the principles apply more generally. [See www.scoutbase.org.uk/library/hqdocs/facts/pdfs/fs120078.pdf]

Activity Details
Activity Area
Description of Activity
Dates of Activity

Party Members (Leaders first)	**Age**	**Next of Kin**	**Address**	**Tel. Numbers**

How to Contact the Party
Activity Base
Name of contact
Address of contact
Telephone number (Daytime) (Evening)
Scout position (if any)

EMERGENCY HOME CONTACT CHECKLIST

The following is specific to The Scout Association. Other organisations may have their own checklist.

The following may be given to the Emergency Home Contact as a guide of what to do in the event of an incident, or see http://www.scoutbase.org.uk/library/hqdocs/facts/pdfs/fs120078.pdf

An incident may be minor in that that the party have experienced bad weather and are coming home early, or are delayed on the journey home.

In the event of a serious incident, involving an accident then the Home Contact must:
1. Stay calm and take all relevant information (see the checklist)
2. Contact the (local) Scout authorities, or National HQ (numbers at bottom of page)
3. If anyone is injured, agree with Scout authorities who will contact the next of kin
4. In the event of a serious accident, contact the National HQ
5. Maintain a log of actions, telephone calls made/received, together with timings
6. Stay available to liaise with all persons involved until someone else takes over

INCIDENT CHECKLIST - If there is an incident, take the following details from the Caller
Name of Caller
Where is the Caller?
Telephone number of Caller
What has happened?
Where has it happened?
Who is involved?
Is everyone else all right?
Has assistance been called? How long ago?
If yes, then who? (Fire, Police, Ambulance, Coastguard, Mountain Rescue, Cave Rescue)
What does the Caller want you to do, if anything?
Is there anything else?
How long will the Caller be at this number?

People to Contact and inform about the incident:		
(1st Choice - normally GSL)		(2nd Choice -normally DC or ADC (Activities))
Name		Name
Tel.		Tel.
Scout Position		Scout Position

Useful Telephone Numbers:
Home DC tel. ADC (Activities) tel.
National HQ tel. 0845 300 1818 or, if out of office hours tel. 020 7584 7031