



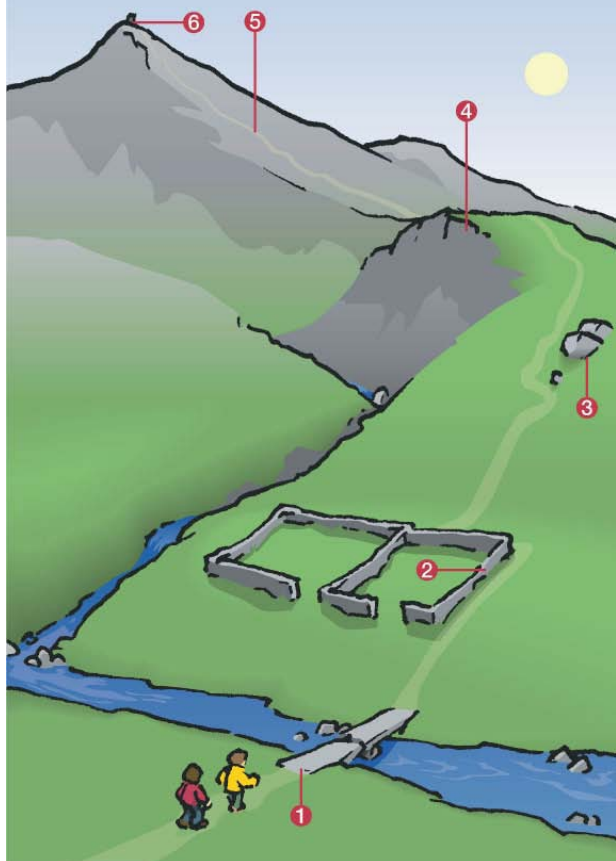
William Howard School



# The Duke of Edinburgh's Award Information Booklet

# Navigation: Handrails and Ticks

Cross the bridge (1. tick), then follow the edge of the enclosure (2. handrail), strike out for the boulders (3. tick) and follow the top of the escarpment (4. handrail). Ascend the ridge (5. handrail) to reach the trig point on the summit (6. tick).



## Handrails

These are linear features that you can follow; they include paths, streams, ridges, crags, walls etc.

## Ticks

Looking at the map, if you mentally move along a handrail make note of all the things you are going to pass. You may cross a wall, pass a tarn and end up at a sheepfold. All these points are tick features. Identifying tick features and mentally ticking them off as you walk past them is the key to fair weather navigation.

## Catchments

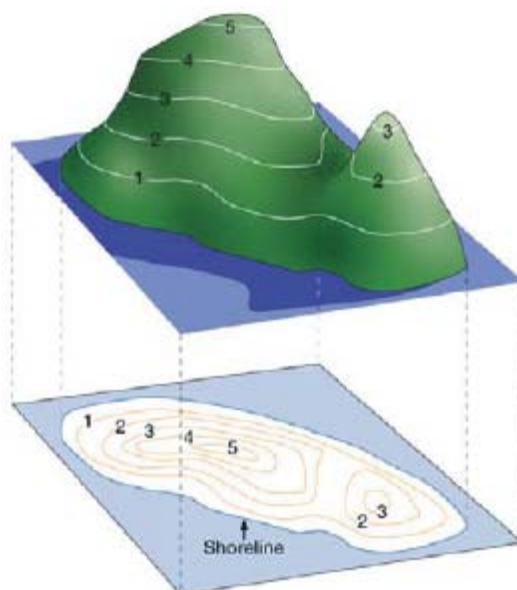
This is another name for a tick feature at which you have to stop to make a decision on where to go. For example, at a path junction.

## Overshoots

If you miss your catchment (or if no catchment existed) then you may end up further along your handrail than you wanted. Having identified an overshoot (a recognisable, distinct, tick feature) further along the handrail you will hopefully notice that you've gone too far and can start to back track before you have travelled to far the wrong way.

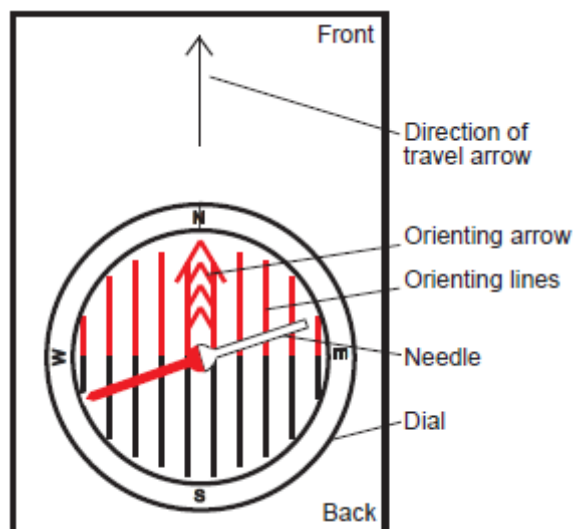
## Contour lines

Contour lines are used in mapping to represent height. By interpreting them we get a three dimensional representation of what the terrain will look like. Each contour line connects different areas on the map that are at the same height. At a basic level the contours tell you the steepness of the slope - the closer the contours the steeper the slope. It is hard to overstate the importance of contours when navigating using a map. It is often said that they are the only thing that you can really rely on when reading a map. Walls deteriorate and become overgrown, footpaths move, tarns are sometimes dry. Contours can be used as tick features, catchments and overshoots. Whenever you are looking for features on the map, include some contour features. For example, when walking along your handrail think what the shape of the land will look like. It may be fairly flat for a km then a steep drop appears on the right followed by a ring contour to the left.



# The Compass

A map is a representation of what occurs on the ground, on a sheet of paper. We get information from the map and need to convert it into information that we can use on the ground, and vice versa. For instance, assume we can see a path on the map that we want to follow, that does not tell us which direction the path goes in real life. In most cases we can tell from other features, the path may follow a stream uphill for example. For when we don't have those features, we have the compass. The compass is a tool for converting information from the map to the ground and vice versa. The compass, as a conversion tool, works by virtue of having features that relate to both the map and The Earth. On the map there are grid lines, on the compass these are represented by the orienting lines. On The Earth there is a magnetic field, on the compass there is a magnetic needle.



## Taking a bearing from the map

- 1) Make an estimate

Look at the direction the path runs in and make an estimate (roughly north east or 45 degrees in the example on the right)

By making an estimate you should avoid the embarrassment of being 180 degrees out. Set your compass to this estimate now.

- 2) Position the compass

Place the long edge of the compass along the path that you need to follow with the big (direction of travel) arrow pointing in the direction you will be walking.

- 3) Turn the dial

Turn the dial so the orientating arrows are pointing up the map parallel with the grid lines. You should end up with a figure roughly what you estimated in step one. If it is vastly different you are probably 90, 180 or 270 degrees out.

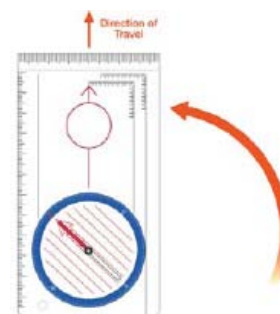
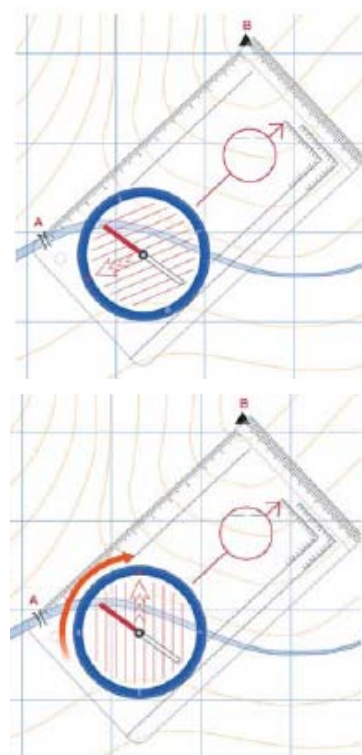
- 4) Add the magnetic variation (if applicable)

- 5) Align the needle

Take the compass off the map and line up the magnetic needle and the orienting arrow by holding the compass firmly and turning yourself round on the spot.

- 6) Follow the direction of travel

The 'direction of travel' arrow will point in the direction you need to travel in.



# Magnetic Variation

The compass is a tool for converting information from the earth to the map and vice-versa. However, with this conversion there is an error. Below is an explanation of that error, information on how to find out what that error is and how to adjust for it. Before we start there are two things you have to understand:



Figure 1: UK With some vertical grid lines.

1) The grid lines on the map are NOT lines of Longitude. Lines of longitude converge at the North Pole. These grid lines are exactly 1km x 1km square. Each North-South grid line therefore points to a different place and not to the North Pole.

2) The magnet on the compass needle doesn't point to the North Pole either but somewhere north of the Hudson Bay in Canada.

As our system of grid lines does not match up to the earth's magnetic field, to convert from the bearing gained from the map to one that you follow on the ground you have to make an adjustment. This is the magnetic variation. It gets more complicated. As each grid line points to a 'different north' but the needle on the compass always points to the same place, the variation is different depending on where in the UK you are. Figure 2 shows (in a vastly exaggerated form) that if you are in the South West the magnetic variation is smaller than if you are in the North East. Angle B is less than Angle A.

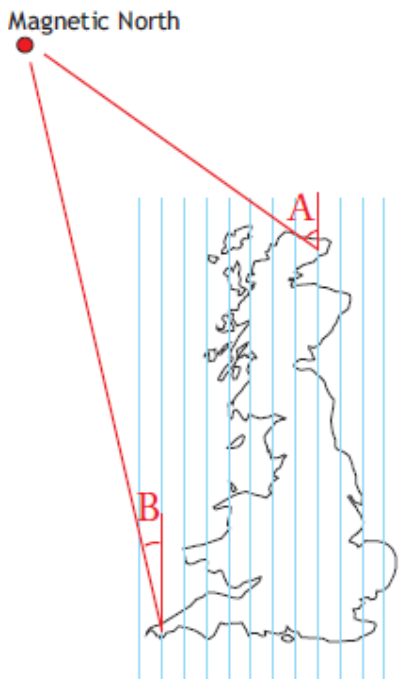


Figure 2: Magnetic variation is different in different parts of the country.

It gets worse. Magnetic north is moving. Magnetic North is moving to the East and therefore the difference is declining. Back in 2004 it was 5° in Cumbria. Now in 2010 it is 2°. The rule, at present, is that if you are taking a bearing from the map and going to follow that bearing on the ground you add the magnetic variation and if you are working from the ground to the map you delete it. The easy way to remember this is that the map is a small thing and the earth is a big thing so you have to add (make the bearing bigger) when going from the small thing to the big thing. In time I expect this to be the reverse as Magnetic North passes across our grid lines.

To find out what the magnetic variation is where you are you have to look at the notes on a map. It will say something like. **Magnetic North** (make sure you are reading the bit about Magnetic North and not True North) is estimated at 2°24' West of grid north at the centre of the sheet for July 2009. Annual change is approximately 10' East. So if it is July 2009 you know that you have to add 2.5° and it is moving a degree every 6 years (there are 60' in a degree) so in 2015 you will add 1.5°. In reality you never really add half a degree as our compasses only have increments in 2°.

# Hazards & Route Planning

It is a dangerous world out there, full of all sorts of things that are exciting, fun and can kill you. When planning your route you should be aware of potential dangers and consider ways that you can minimise risk. Some things, like farm houses with ferocious dogs, you can't really foresee, others you may be able to identify on the map and plan your route accordingly. Some dangers you may wish to acknowledge and go there anyway, accepting an increased risk, others you may wish to avoid completely.

## Water (streams, fords, stepping stones, lakes)

If you are crossing a stream you should use a bridge. Under no circumstances should you be wading through water, if the water is deeper than the ankle of your boot then it is too deep. Wading through streams and rivers is never safe. You may have chosen a route that involves stepping stones, these should be treated with caution (especially when they are wet).



## Falling down something (Shake holes, cliffs, mines)

On your map you may see cliffs, old mine workings, pot holes and areas of shake holes marked. Pay attention to these and under no circumstances decide to go exploring old mine workings.

## Roads

Avoid roads completely if possible, they are rubbish for walking on anyway. If you do need to cross a road or walk along a road for a short period, then wait for everyone to catch up and gather together. Make sure everyone knows where you are going, what tick features you will pass and roughly how long it will take. Then execute the manoeuvre, in single file, as quickly and efficiently as possible. Don't chatter, concentrate. It is the reality that, even with all that dangerous countryside around, fast country roads and cars are probably your greatest threat.



## Trips and falls

Wear decent boots with a decent amount of tread (to give good grip), ask us about your planned footwear in plenty of time, we may be able to lend you a pair of boots from stores. Take particular care on steep or slippery ground.

## The weather

Be aware of hypothermia, lightning, flooding, hyperthermia, sunburn

## Animals

Be aware of the potential dangers posed by animals.



# Expedition Route Card



<b>Date:</b> 29 / 07 / 07		<b>Day:</b> 2 of 3		<b>Maps Used:</b> 135 & 148		<b>Group Name:</b> Armadillos	
<b>Mon</b>	<b>Tue</b>	<b>Wed</b>	<b>Thu</b>	<b>Fri</b>	<b>Sat</b>	<b>Sun</b>	<b>ETA</b>
	Gemma Anderson				Jessica Allen		
<b>Team Members:</b>		Alice Beswick	James Wilson		Patricia Jones		<b>Start Time:</b> 09:00
					Chloe Harvey		<b>Est Finish Time:</b> 16:42

Location & 6 Fig Grid Ref	Bearing	Distance (km)	Height Change (m)	Time for Travel (mins)	Time for Breaks (mins)	Total Leg Time (mins)	ETA	Description of Route	Escape Routes
<b>Start Location:</b> 807 626 Camp Site									
<b>Leg 1 to:</b> 792 618 The Dium St	221	1.40	0	22	10	32	09:32	From camp site head W 500m past Paris Fm to FP SW toward Bredhurst Church. Continue on FP SW over field 700m to Dium St (CP1)	<b>To:</b> Return to start point
<b>Leg 2 to:</b> 784 613 Crossroads	214	1.10	0	22	10	32	10:10	From Dium St follow road SW 1100m to X roads. Watch traffic, single file (CP2)	<b>To:</b> Return to last CP
<b>Leg 3 to:</b> 762 602 X T/Ye/Road	268	2.30	0	46	10	56	11:06	At X roads follow road W Yelstead Lane 1500m to road June. Turn S 100m to Westfield Sole. Follow road/trail SW 1000m to road/trail June (CP3)	<b>To:</b> Return to Yelstead Lane
<b>Leg 4 to:</b> 744 613 BB View Point	312	2.40	0	42	20	62	13:14	From CP3 follow trail N 400m to Cassington Farm. Just before Farm take FP NW over field 900m to woods. Follow FP through woods 1000m to bridge crossing. Bridge to BB Hill VP (CP4) Lunch at VP	<b>To:</b> Head N to boundary road
<b>Leg 5 to:</b> 734 603 Red T June FP	232	1.50	-130	30	10	40	13:54	From VP follow path SW steep downhill through trees. Follow Centenary walk bridleway SW 1500m to road June Little Cwland Farm (CP5)	<b>To:</b> Head W toward obvious village
<b>Leg 6 to:</b> 733 583 Aylesford June	192	2.40	+200	62	10	72	15:12	Cross road when safe, follow Centenary walk FP S 2400m through open land to road June in Aylesford (CP6)	<b>To:</b> Head E to boundary road
<b>Leg 7 to:</b> 729 589 Camp Site	223	3.50	0	90	0	90	16:42	Follow road S 300m to School, cross bridge. Turn W 3100m along riverpath on S bank to campsite (Finish)	<b>To:</b> Head back to bridge: re-assess
<b>Totals</b>		14.60		252	70	322			

<b>Checked by Supervisor:</b>	Mr Joseph Bloggston	<b>Date:</b> 10 / 07 / 07	<b>Checked by Assessor:</b> Mrs Josephine MacBogger	<b>Date:</b> 26 / 07 / 07
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# Relocation when Lost

There will be times when you are not sure where you are. The key to good navigation is observation. When you are walking, keep looking around you. Keep a mental note of ALL tick features that you pass, not just the ones you identified from the map at the beginning of the leg. Once you realise you are not sure where you are there are a few steps to go through.

## Stop

Don't look at the map yet, take a look around you to see if there are features that you will probably be able to see on the map. A tarn or a ring contour for instance. You may be able to take a bearing on your path or down a valley.

## Where were you when you last knew where you were?

How long ago was that? What direction have you been walking in since then? How far might you have walked in that time? What have you passed since and when?



## Put all that together with what you can see on the map.

This is the tricky bit. It is a good idea to start with where you last knew where you were and work forwards following your route recalling what you passed (note: the route you took may be different from the route you were meant to take). All being well you should be able to identify your position with ease using the features you identified in step 1. Be very aware of the tendency to make things fit with what you can see when they don't in real life. Pay particular attention to scale.

What if that doesn't work? If you are getting nowhere you may wish to consider one of the following courses of action

- Back tracking to where a place that you knew where you were.
- Keep going to get to the top of the next hill or move up to the crest of a ridge line to see what more you can see.

Learning how to relocate is more about looking around you rather than looking at the map. When lost, inexperienced navigators tend to start studying the map intently looking for clues and looking up to see if those clues are visible. It is easy to be 10 metres from a tarn and not be able to see it if you are slightly below it. However, if you can see a tarn on the ground (and it is big enough) then it will be on the map.

## Look around first, look at the map second

# First Aid

With a little care all the injuries and ailments discussed below are avoidable. Preventing these injuries is much better than having to provide treatment.

## Blisters

The two main causes of blisters are ill fitting footwear and poor choice of fabric in socks. Applying tape or a blister plaster (e.g. Compeed) as soon as a tender spot is felt on the foot will delay or completely prevent the formation of blisters. If blisters are left to get too serious it may mean you are unable to finish the expedition.

## Burns and Scalds

Burns and scalds are treated by placing the affected area under cold running water for at least 10 minutes, and then covered with a sterile dressing. Even minor burns can become extremely painful if not treated immediately. The most likely cause of a burn is your cooking equipment, but you should also protect yourself against sunburn.

## Leg and Ankle Injuries

Sprains and ligament injuries are relatively common in the outdoors. Such injuries should be treated as suspected fractures. Injuries of this nature should be rested, cooled, elevated and immobilised. If this is carried out check that circulation is not impaired. All such injuries must be checked by a casualty department.

## Exhaustion

Exhaustion leads to reduced oxygen and sugar supplies to the brain, this may lead to mood swings, irrational behaviour or withdrawal from the rest of the group.

## Cold Exhaustion (Hypothermia)

This is particularly likely in cold, wet conditions and can become very serious in a short amount of time. Symptoms include, disorientation, stumbling, complaining, cold outer extremities and withdrawal. Cold Exhaustion is treated by a combination of replacing energy and warming.

- Energy should be replaced through eating chocolate bars (for speed of delivery) and resting.
- Warming can be achieved by putting more (and waterproof) clothing on.

Wet clothes should be removed only if a dry sheltered place is available, otherwise warm clothes should be put on over the top. Warm drinks should be prepared too. You may elect to put your tents up, get a hot drink on the go, get into your sleeping bags and call us for assistance.

## Heat Exhaustion (Hyperthermia)

Less likely than cold exhaustion but just as serious, heat exhaustion may occur as a result of insufficient fluid intake and overheating. This is most likely when engaging in ongoing exercise in hot conditions. The issues raised by this are similar to those of dehydration (see below).

## Dehydration

Most people, when out walking, don't drink enough. You have to increase your fluid intake to make up for fluid lost through sweating. Sometimes people purposely don't drink so they don't have to go to the toilet outdoors. This is a really bad idea! Symptoms of dehydration include thirst (surprise, surprise) headaches, collapse and vomiting.



# Emergency Procedures

Evaluate the situation first. Apply First Aid if necessary. Do you need help? If so do you need help from our staff or the Emergency Services?

## Calling the Emergency services

If you decide to call the Emergency services from your location do so by calling 999 or 112. Even if you have no signal it often still works. If you require the services of mountain rescue (i.e. if the is in a remote situation) ask for the police and tell them that it is a mountain rescue situation. Be ready to tell them:

- 1) Number and type of casualties
- 2) Where you are, a grid reference, etc
- 3) Your telephone number
- 4) Our contact details and ask them to contact us



After you have called Mountain Rescue call us if you can from your location.

## Sending for Help

If you do not have phone reception you may have to send part of your group to get help

- 1) Decide where to go for help.

Make sure the people staying know where you have gone. You may elect to go somewhere to find phone signal or to the nearest house.

- 2) Write down all important information
- 3) Make sure there are two of you going together
- 4) Take enough equipment to ensure your safety
- 5) Don't rush

When you get in contact with us or the emergency services, get clear instruction on what you should do next.

## Waiting for help

Once you have decided that you need help on the hillside you need to prepare for a potentially long wait for us or the emergency services to get to you. There is a lot you can do to make things more comfortable and to pass the time.

- 1) Keep someone with any casualties at all times
- 2) Keep checking on each other
- 3) Every few minutes blow your whistle (six long blasts)
- 4) Consider putting up a tent or two
- 5) Consider getting someone to make a brew
- 6) Once things have settled down and you have the time, write a log of events

# The Country Code

The countryside is vulnerable to overuse and misuse by those of us who visit it. By taking a few precautions and following some common sense rules we can drastically minimise our impact on the environment.

## **Don't drop litter**

By litter we include not just paper and drinks bottles but also organic material such as orange peel and banana skins. These materials may take weeks or even months to rot down and look unsightly while they do.

## **Take care on roads**

Many country roads are narrow and cars often travel very fast on them. When you get to a road - stop. If you are map reading brief the rest of the group on how far you will be walking and where you will be turning off. Then lead off walking in single file. Generally you should walk on the right hand side of the road. However, if the road is very narrow it may be safer to cross to stay on the outside of any bends. Please concentrate and don't chatter to each other until you are safely off the road.

## **Close gates after you**

If you open a gate make sure you close it properly or livestock may escape onto roads. If a gate has been left open then it is probably a good idea to leave it that way unless it is obvious that it has been done so through the carelessness of others and leaving it open may endanger people or livestock (a field of cows next to a road for example).

## **Don't go to the toilet close to streams, lakes or any other watercourse**

Ensure you are at least 30 meters from any watercourse before going to the toilet. If you need to poo ensure that it is well buried (15 cm deep). It is a good idea to burn any toilet paper then if it does get dug up by an animal there is not dirty toilet paper blowing about. If you can't bury it then current advice is to spread it out as thinly as possible using a rock to speed up its breakdown. Sorry... I don't make the rules.

## **Think about erosion**

If you are on a thin footpath through a meadow (for example) then walking in single file on the path will cause less damage to area than spreading out next to each other. Most footpaths are wide enough for two but if they are not then please don't widen them.

## **Take care around animals**

This is especially true if they have young with them, this is as much for self preservation as animal welfare. It is not a good idea to walk between a cow and its calf. Leave the footpath to go round them rather than creating this scenario.

## **Don't wash up in streams**

If you cook soup during the day or if you are camping next to a stream then please don't pollute the stream by washing up in it. If you need to wash up fill a pan from the stream and take it away from the stream to do the washing up.

# Expedition Menu Planning

When out walking, particularly on multi-day trips, it is important to make sure you eat enough to prevent exhaustion and the associated problems and dangers.

There are a few things to consider when menu planning. As usual some of these factors conflict with one another so it is up to you to consider what is best for you.

## **Weight**

You have to carry everything you eat once you get going, it is obviously in your best interest to make it as light as possible. Don't even think about carrying tins or glass jars. Boil in the bag is heavier than dehydrated food. Think about removing excess packaging but be careful not to remove cooking instructions you may want to refer to later.

## **Speed and Ease of Preparation**

If the weather is nice you may want to spend a bit of time relaxing on the campsite and cooking. If, however, it has been raining all day the last thing you are going to want to do is sit outside in the rain cooking. Boil in the bag may be heavier than dried food but it is faster, easy to prepare and generally tastes better. If you are buying pasta choose quick cook varieties, this will save both time and fuel. Consider practising cooking what you are going to cook at home on one hob.

## **Tastiness and Variety**

You need your diet to be as varied as possible as eating the same thing every day can become really dull. I would try and get some fresh stuff in for the beginning of the trip and move onto the less tasty but longer life foods later.

## **Durability and Longevity**

You need foods that will not be ruined or taste bad if they are squashed and won't leak out of any containers. If you have perishables make sure you are planning to eat them early and that you have a non-perishable equivalent for later in the expedition.

## **Calorific Intake**

On expedition you will burn many more calories than usual. You should be aiming to eat something in the region of 3500 calories per day but this will vary from person to person.

## **Timing**

When you get to the camp site you want to be eating as soon as possible. Have a snack as soon as you stop. Energy is replenished in the muscles much more effectively straight after exercise so eating immediately will give you more energy the next day. Next get your tent up in case it starts raining then start cooking your main meal.

## **Emergency Rations**

Don't eat all your food on the last day. You must keep some back in case of emergency. Your assessor may well ask to see your emergency rations at the end.

# Expedition Menu Planning

## Breakfast

You won't have to carry your first breakfast so make it a BIG breakfast. Consider going to café near your start point as a team building exercise. After that go for cereal, sweet porridge, flapjack or anything high in energy from your lunch stash as lunch foods and breakfast foods are pretty much interchangeable. Early in your trip croissants are great as they are full of fat and it doesn't matter if they get squashed but eat them quick as they will go stale. Make sure you are fully re-hydrated before you leave the camp each morning as anything you drink now you won't have to carry.

## Snacks / Lunch

Lunch shouldn't be an event but more a process. Eat little and often. Keep food in your pockets and snack throughout the day. Good snacking foods include packets of peanuts or trail mix (fruit and nut mix), flapjack, energy bars, cereal bars.



If you stop for food some suggestions are oat cakes and pate (from a toothpaste like tube), heavy, stodgy cakes (for example Fruit cake, malt loaf, Jamaica cake), If you want to eat bread products choose flat bread like pitta bread or even tastier and longer lasting, tortillas.

Health food shops do loads of different dried fruits. You can get a dozen dried bananas in a pack about the size of a fist. Dried fruit is healthier and provides a slower release energy than chocolate and is pretty indestructible. Everyone should get into dried fruit for their expedition.

## Dinner

You want to get eating complex carbohydrate as soon as possible so skip your starter and get straight onto the main course. Noodles, pasta and rice all make good dinners, they are light weight, quick and easy to cook. They can be supplemented with other ingredients such as nuts, the odd carrot and packet sauces.

Many people choose boil in the bag foods. You can get a wide variety from outdoor shops and if you like curries you can get much cheaper and tastier ones from continental supermarkets. They are ready in minutes, create no washing up, generally taste pretty good and leave you with a pan of hot water to make a hot drink or soup with. The down side is that they are heavier to carry than dried foods.

After you have eaten your main course consider going back to your starter and making a cup-a-soup. Then you will be ready for desert.

## Drinks

It is essential to drink enough to avoid dehydration. Drinking enough water is possibly the simplest way to do this. Weak solutions of cordial are also good.





# Expedition Menu Planner



<b>Name:</b> Gemma Anderson		<b>Group Name:</b> Armadillos	
<b>DAY ONE</b> Date: 28 / 07 / 07	<b>DAY TWO</b> Date: 29 / 07 / 07	<b>DAY THREE</b> Date: 30 / 07 / 07	<b>DAY FOUR</b> Date: / /
<b>LUNCH</b> Peanut Butter Rolls Pork Pie Apple	<b>BREAKFAST</b> Porridge with Dried Fruit	<b>BREAKFAST</b> Porridge with Dried Fruit	
<b>LUNCH</b> Pate Pitta Bread Pork Pie Apple	<b>LUNCH</b> Pate Pitta Bread Pork Pie Apple	<b>LUNCH</b> Pate Pitta Bread Pork Pie	
<b>EVENING MEAL</b> Pasta Bacon & Tomato Sauce	<b>EVENING MEAL</b> Flavoured Couscous Salami		
<b>SNACKS</b> Kendal Mint Cake Tracker Bars	<b>SNACKS</b> Dried Fruit Tracker Bars	<b>SNACKS</b> Kendal Mint Cake Tracker Bars	
<b>Nutritional Values</b>	<b>Nutritional Values</b>	<b>Nutritional Values</b>	<b>Nutritional Values</b>
Protein	Protein	Protein	Protein
Fat	Fat	Fat	Fat
Carbs	Carbs	Carbs	Carbs
Kcal	Kcal	Kcal	Kcal
<b>Checked by Supervisor:</b> Mrs Joseph Bloggston		<b>Checked by Assessor:</b> Mrs Josephine McBlagger	
<b>Date:</b> 30 / 07 / 07		<b>Date:</b> 26 / 07 / 07	

# Trangia Use

## Placement

Never use the stove within 3 metres of any tent

## Hygiene

If you can smell Meths in the pans, or it has remnants of its last meal visible, then it is a good idea to give them a quick clean.

## Methylated Spirits

Always hold the burner in your hand while filling. If the burner is too hot to handle then it is too hot to refill. Remember that 'Meths' can burn with a transparent flame so even if it looks empty, and you cannot see a flame, treat with care.



## Safety

Screw the fuel bottle cap down immediately after use. If you forget to seal the bottle properly you can end up with 'Meths' leaking inside your bag and over your kit. The best time to secure it is when it is in your hand.

## Lighting

Position the burner in the base of the trangia and then light. Do not hold the burner when lighting as you may spill 'Meths' when placing the burner back in the base.



## Cooking

Use the Handle to hold the pan when stirring (though don't leave the handle on the pan). Holding the handle provides stability while stirring but if you leave the handle on the trangia it can get very hot.

## Extinguishing

Don't attempt to blow out the trangia. If you do you can blow flaming 'Meths' at anything opposite you or even into your own face. Close the simmer ring and use the handle to carefully place it over the burner (do not use the screw top).



## Re-packing

Don't place the screw top on the burner until it is completely cool. Inside the screw top is a rubber ring to stop it leaking. If you screw the cap on while the burner is still too hot it will melt this ring and 'Meths' will leak out into your bag.

As an extra precaution you may want to place the burner in a plastic bag before packing it away.

# Tent Use

The popularity of festivals and the cheap 'disposable' tent has meant that many people don't know how to look after them properly. Our tents are used as much high up in the mountains in foul weather as they are in the sheltered valleys. They should be thought of not merely as tents but expensive and important emergency equipment. While you may be camping on a campsite in the Dales in August the next time your tent is used it may be in gale force winds on a mountain in a Scottish winter. Treat it well.

## **Before pitching - Check the site for stones and sharp twigs**

These will not only make your night more uncomfortable but may puncture the groundsheet and then let water in.

## **Don't lose the bags**

As soon as you take the tent, poles or pegs out of their bags put the bags in your pocket so they don't blow away.

## **Keep your tent clean**

Take your shoes off, try not to get mud on the side of the tent. Always tie back the doors when they are open. If a tent gets dirty this negatively affects its waterproofing ability.

## **Use the zips**

If you open the tent by simply pulling on the material this will weaken the zips and may cause them to break. If your zips break you may be in for an uncomfortable night.

## **Allow the tent to ventilate**

If your tent has solid inner walls then it is important to keep the inner door open a little. If you don't then condensation from your breath will collect on the walls and make the inside of the tent, you and your sleeping bag damp. Even if it is cold a small gap will keep you dryer and therefore warmer.

## **Don't cook in or near the tents**

A tent can catch fire in seconds burning anyone or anything inside it. Do not under ANY circumstances cook in the tents.

## **Dry the tent when you get home**

Always take the tent out of its bag and hang it up to dry when you get home (even if you think it is dry). If you don't hang it up to air it will rot and need replacing.



# Packing a Rucksack

Much of packing a rucksack is down to personal preference. Here are some things to bear in mind which should make life easier and load carrying more manageable. You will be walking for up to 8 hours a day with your rucksack on your back, it is therefore in your interest to make it as comfortable as possible. There are two basic principles that you will want to follow when packing your rucksack, unfortunately the two principles sometimes conflict, but do your best.

## Principle 1

### **Heavy items should be close to your back, evenly weighted left to right and near the top**

This means you won't feel like you're being pulled off balance. It will also reduce the amount of pull on your shoulders. For instance, Place a heavy item like your tent under the lid rather than on the straps on the bottom at the back.

## Principle 2

### **Items you may need should be accessible**

Pack your snacks, lunch, drinks, waterproofs, hat, gloves, torch and emergency gear near the top of the bag or in the outer pockets.

Other considerations, tips and tricks...

### **The sleeping bag**

It is common to pack the sleeping bag at the bottom of the rucksack. It is the least likely item to be needed during the course of the day and if your sleeping bag is at the bottom you know you can sit on the bottom of your rucksack without splitting food bags open or breaking anything.

### **Attaching things to the outside of the bag**

As sleeping mats are so light they can be attached by straps to either the top, side or bottom of the bag as preferred. It is best not to attach anything else to the outside of the bag - heavier items will make the load unbalanced and smaller items might get lost or damaged. You also look a lot more slick and together if you haven't got a pair of flip flops or a mug hanging off your bag.

### **Keeping things dry**

You should use a waterproof liner inside your bag to keep the big things dry – heavy duty rubble sacks or bin bags are good cheap options. Plastic freezer bags are good for smaller items. Do not just rely on the rain cover as it will fail after time.

### **Fitting your rucksack**

Make sure your rucksack is correctly adjusted to you. You can adjust the back length, the shoulder straps and the position of the hip belt. It will make a huge difference to how the weight is distributed and when you get it right, it will actually feel lighter. Get used to the routine of adjusting your pack every time you put it on and you will feel the benefit.





# Expedition Kit List

These are the items you will need when undertaking a DofE expedition. This is to be used as a GUIDE only. Quantities of some items depend on level and duration of expedition. For details of DofE Recommended Kit, visit [www.DofE.org/go/expeditionkit](http://www.DofE.org/go/expeditionkit). DofE participants and Leaders can get a great discount off expedition clothing and equipment at Cotswold Outdoor, the Recommended Retailer of Expedition Kit to the DofE. Find out more from [www.DofE.org/go/cotswold](http://www.DofE.org/go/cotswold). All of our Recommended Kit has been tested by DofE expedition teams. The DofE Charity receives a royalty from all sales, which helps to support our work with young people.

## CLOTHING

Item	Specific items we recommend
1 pair walking boots (broken in)	Craghoppers – Tromp Walking Boot, Yomp Trail Shoe
2 pairs walking socks	Bridgedale – Endurance Trekker, Women’s Endurance Trekker
2 pairs sock liners (optional)	Bridgedale – Coolmax, Women’s Coolmax
2-3 t-shirts	Craghoppers – Base T
1 thermal t-shirt (optional)	Craghoppers – Base T
2 fleece tops or similar	Craghoppers – Vector Soft Shell Zip-Neck, Vicona Soft Shell Zip-Neck, Vector Soft Shell Jacket, Vicona Soft Shell Jacket
2 walking trousers (warm, NOT jeans)	Craghoppers – Venturer Trousers, Ventura Trousers
Underwear	
Sports bra (optional)	Shock Absorber – RUN Bra, MAX Bra
Nightwear	
1 pair of trainers (optional)	
1 warm hat (if appropriate)	
1 sunhat (if appropriate)	
1 pair gloves (if appropriate)	
1 pair shorts (if appropriate)	
Suncream (if appropriate)	
1 pair gaiters (optional)	
1 waterproof over-trousers	Craghoppers – Pakka Plus Overtrousers
1 cagoule/coat (waterproof & windproof)	Craghoppers – Venture Shell, Pakka Plus Jacket

## PERSONAL KIT

Item	Specific items we recommend
1 rucksack (approx. 55-65 litre)	Vango – Contour, Sherpa, Pumori
1 rucksack liner (or 2 x plastic bags)	
1 sleeping mat	Vango – Adventure, Trek, Ultralite
1 sleeping bag	Vango – Nitestar, Ultralite, Supernova
1 waterproof bag for storing sleeping bag	
1 sleeping bag liner (optional)	
1 survival bag	
Small quantity of money (optional)	Call4Five Card for telephone
1 notebook & pen/pencil	

## PERSONAL KIT (cont)

Item	Specific items we recommend
1 watch	
1 whistle	
1 torch (handheld or head torch)	
Spare batteries & bulb for torch	
Personal first aid kit	
Emergency food rations	
1 water bottle (1-2 Litres)	
1 knife, fork, spoon	
1 small pocket knife/pocket tool	
1 plate/bowl	
1 mug	
1 box of matches (in waterproof container)	
1 wash kit	
1 towel	

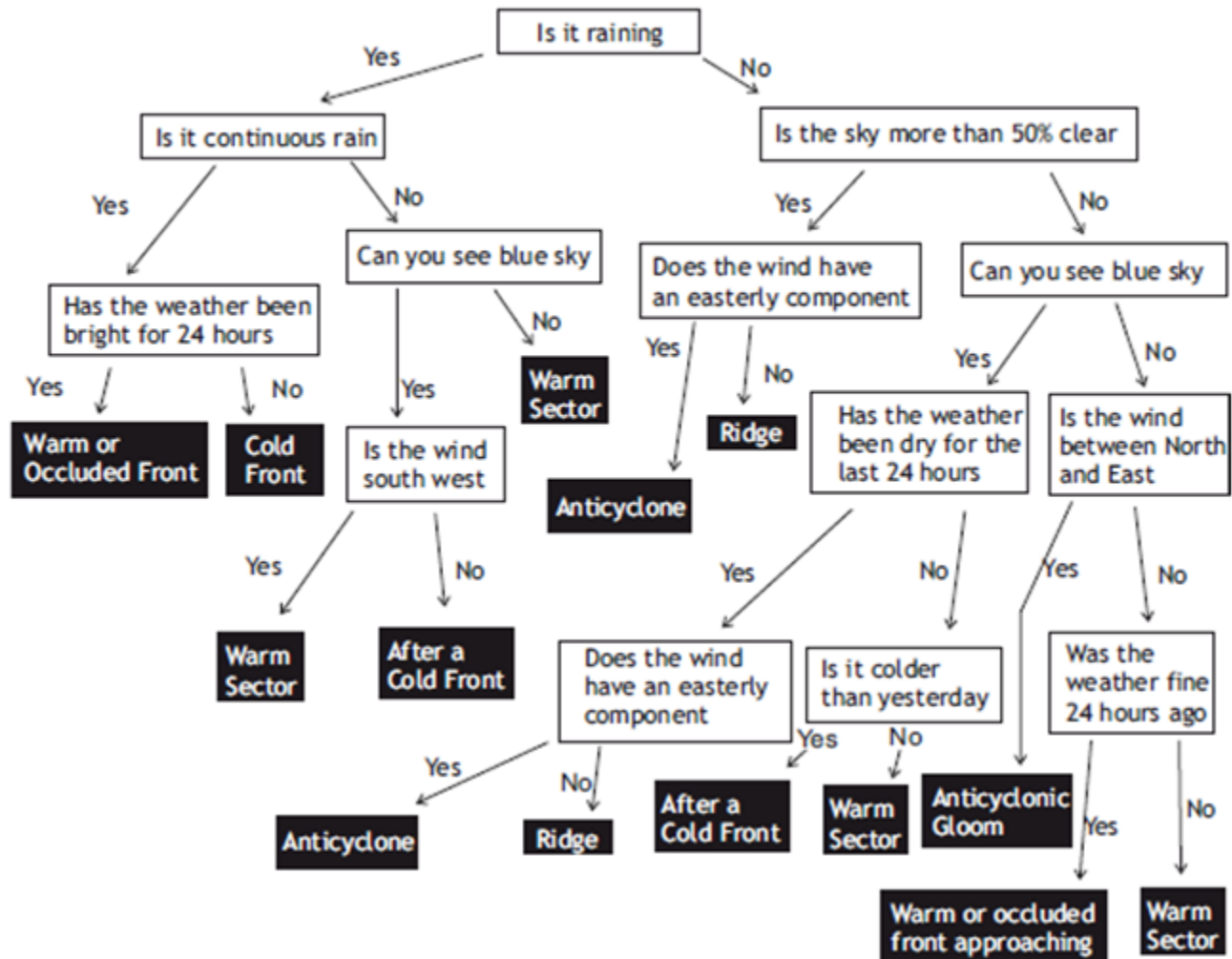
## GROUP KIT

Item	Specific items we recommend
Tent(s)	Vango – Hurricane, Typhoon, Spectre, Apex, Chinook, Banshee, Equinox, Tempest, Cyclone, Halo, Omega, Spirit
Camping stove(s)	Trangia – 25-1UL, 25-5UL, 25-1GB/UL, 25-2GB/UL, 25-5GB/UL, 27-1UL, 27-5UL, 27-1GB/UL, 27-5GB/UL
Camping stove fuel container (plus fuel)	Trangia – Fuel Bottle 0.5L, 1.0L
Cooking pans	Included with Trangia stoves
Scourers	
Maps (1:50 000/1:25 000)	
Compass(es)	
Map cases	
Camera (optional)	
Toilet paper	
Tea towels	
Food (lightweight)	
Plastic bags (for rubbish etc.)	
High visibility vest/jackets (minimum of 2 per group)	

## ADDITIONAL OPTIONAL KIT

Item	Specific items we recommend
Storm shelter	Vango – Storm Shelter.
Waterproofing for kit	
Rucksack protector	
Secure money pouch	
Survival pack	
Stuff sack	
Stove accessory	Trangia – Multidisc 25 series, Multidisc 27 series

# Weather Forecasting



## Warm or Occluded Front

The rain will continue for a few hours before being replaced by a period of bright and breezy weather with the possibility of showers. The weather will continue to be unsettled for the next day or so

## Cold Front

The rain should soon clear. To be replaced by sunny, blustery colder conditions with fairly frequent and heavy rain showers. The outlook is for a spell of cold bright weather before rain comes in once again from the west

## After a Cold Front

The theme of occasional heavy showers will continue until the showers die away and the wind eases to make way for a spell of fine weather

## Warm Sector

Present weather will continue for a while until heavy rain and strong winds come in from the west this will clear after about six hours to be replaced by a spell of bright blustery and showery weather

## Anticyclone

The fine weather is set to continue for the foreseeable future bringing warm days and cool nights.

## Ridge

The fine weather is set to continue for the next day or so before the sky fills with high cloud which will thicken to give a prolonged period of heavy rain

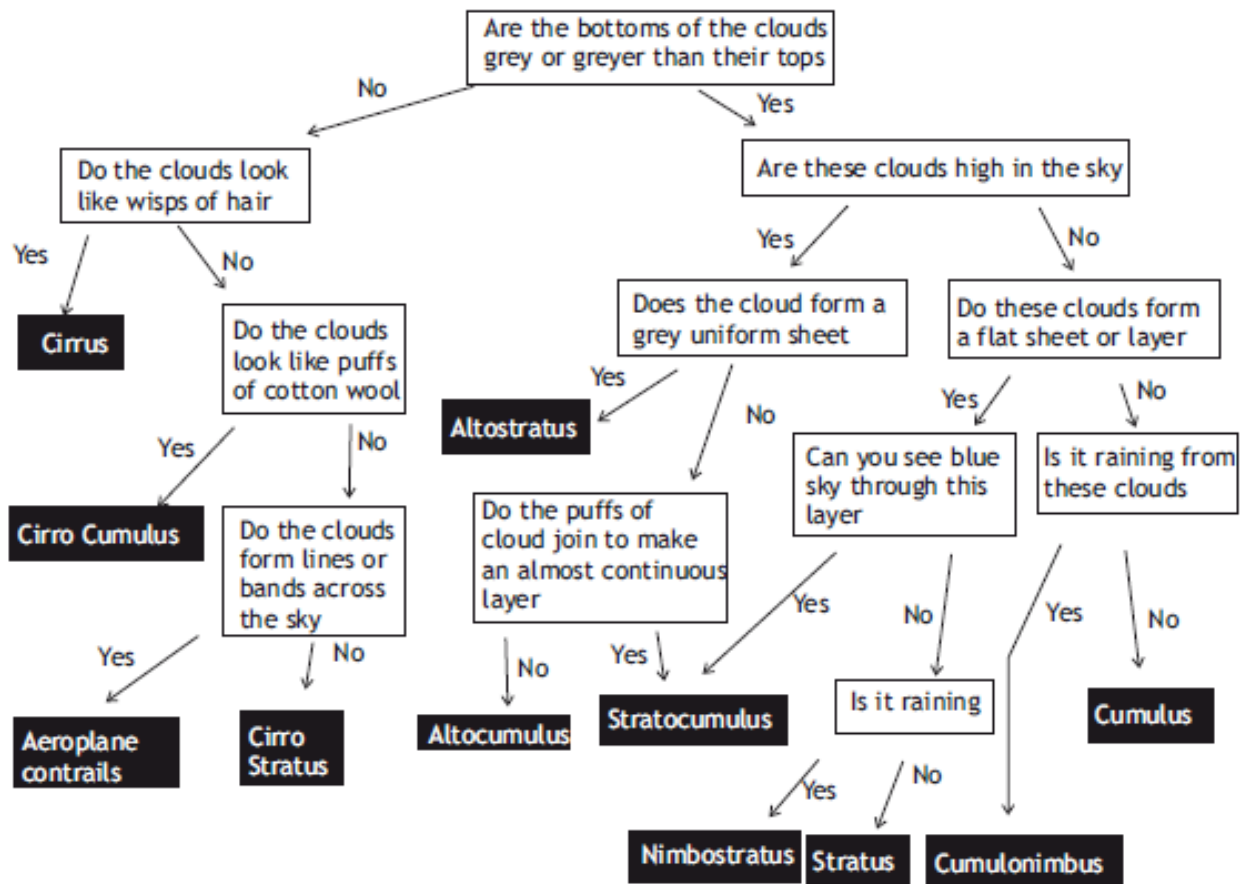
## Warm or occluded front approaching

The layers of high cloud will thicken and it will begin to rain within the next few hours. The rain will last approximately eight hours before clearing to give a spell of brighter dryer weather

## Anticyclonic Gloom

The gloomy weather is likely to persist for the next few days. However some lucky areas may occasionally see the sun

# Cloud Identification



## Cirrus

Cirrus show that there is a lot of wind high in the atmosphere which means that the weather is probably about to change. Often seen before a warm or occluded front.

## Cirro Cumulus

Often called mackerel sky. Formed when the top of the troposphere is colder than what is underneath. Often found in the warm sector before a cold front arrives.

## Aeroplane contrails

Aeroplane trails form when the upper air is very cold which makes the water in the gas coming from the engines condense and form cloud. Often seen in an anticyclone

## Cirro Stratus

Cirrostratus is like cirrus but thicker and it tells us that the weather is about to change. Often seen towards the end of a ridge and before a warm or occluded front.

## Altostratus

Forms when large areas of air are moving slowly upwards. Can be seen before a warm or occluded front.

## Stratocumulus

Forms when the air high up is warmer than it might normally be. This happens during anticyclones. These clouds are responsible for anticyclonic gloom.

## Alto cumulus

Forms when the air in the middle of the troposphere is much colder than the air below. Often seen in the warm sector before a cold front.

## Nimbostratus

Formed when large areas of the troposphere are moving gradually upwards. This is the cloud which makes the rain in warm, occluded and cold fronts.

## Stratus

Formed when the air is very humid and often produces drizzle. Usually found in the warm sector.

## Cumulonimbus

Formed when the surface of the Earth is much warmer than the air above it. Often found after a cold front, but also at the end of an anticyclone or ridge in the summer

## Cumulus

Fair weather cloud. Found when there is a ridge of high pressure in the warm sector or near the coast during an anticyclone where they show that there is a sea breeze