

# BRONZE DofE Expedition Training Guide



**The purpose of this booklet is to help prepare you for your Bronze DofE Expedition. You must complete a practice training expedition and an assessed expedition to be able to successfully complete your expedition section.**

## BRONZE Kit list

Below are the items that you will need for your Bronze DofE practice and assessed expedition. These are essential to keep you warm, dry and comfortable during your expedition. Some of the items may be able to be borrowed from the college but most of the personal clothing and items you will need to borrow or buy. You are able to take advantage of 15% discount at Cotswold Outdoor and 20% at Taunton Leisure in Exeter. Talk to your leader for more information on discounts. Use the tick lists to make sure you have everything and don't forget to read the guide to kit and equipment as well.

### CLOTHING

Got it	Packed it	Item Needed
		1 pair of walking boots (broken in)
		2 pairs of walking socks
		2-3 t-shirts or baselayers
		2 fleece tops or warm jumpers/hoodies
		2 pairs of walking trousers (warm, NOT JEANS)
		Underwear
		Flip-flops/trainers/sandals (optional for evening)
		Warm hat or sun hat (as appropriate)
		1 pair of gloves
		Sunblock (as appropriate)
		Waterproof coat
		Waterproof over trousers

### PERSONAL KIT

Got it	Packed it	Item Needed
		Expedition rucksack (min 60ltrs)
		Rucksack liner (or two strong plastic bags)
		Sleeping mat
		Sleeping bag
		Waterproof bag for sleeping bag

		Survival Bag
		Whistle
		Torch (hand held or head torch)
		Spare batteries for torch
		Emergency food rations
		Water bottle (1-2 litres)
		Knife, fork, spoon
		Plate/bowl
		Mug
		Box of matches (in waterproof container)
		Wash kit/personal hygiene items/meds
		Towel (lightweight trek towel)
		Personal First Aid kit (see first aid info sheet)

**Group Kit (to be shared between team)**

Got it	Packed it	Item Needed
		Tent
		Camping Stove (Trangia)
		Fuel bottle and fuel for stove (methyated spirit)
		Scourers + tea towel
		Food – lightweight and to include snacks (see food info sheet)
		Plastic bags for rubbish
		Toilet paper
		Map
		Compass

## Guide to TENTS

If you look after your tent, your tent will look after you! 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 Devon in the spring, the next time your tent is used it may be in gale force winds on a mountain in a Scottish winter. **Treat it well and with respect.**

**At the academy we use two main types of tent, the Vango Sigma and the Vango Halo. These are available in two or three man forms. Both are easy to erect and provide plenty of room and shelter for DofE expeditions.**



### **1) 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.

### **2) 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/bag so they don't blow away.

### **3) Push poles don't pull.**

When you are inserting or removing poles push them rather than pull. If you pull them the elastic bungee in the pole gets damaged and they are more difficult to remove from the tent.

### **4) 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.

### 5) 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.

### 6) 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.

### 7) Don't smoke or 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 or smoke in the tents.**

### 8) 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.



#### Other tips:

Get your tent up as soon as possible when you arrive at the campsite

Before getting into your tent take off waterproofs and boots.

Keep anything wet separate from your dry kit and in plastics bags.

Divide up your duties e.g. someone puts up tent, someone gets water, someone gets the stove on the go.

Your campsite should be completely free of litter at all times.

## Guide to RUCKSACKS

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 (side to side) 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.

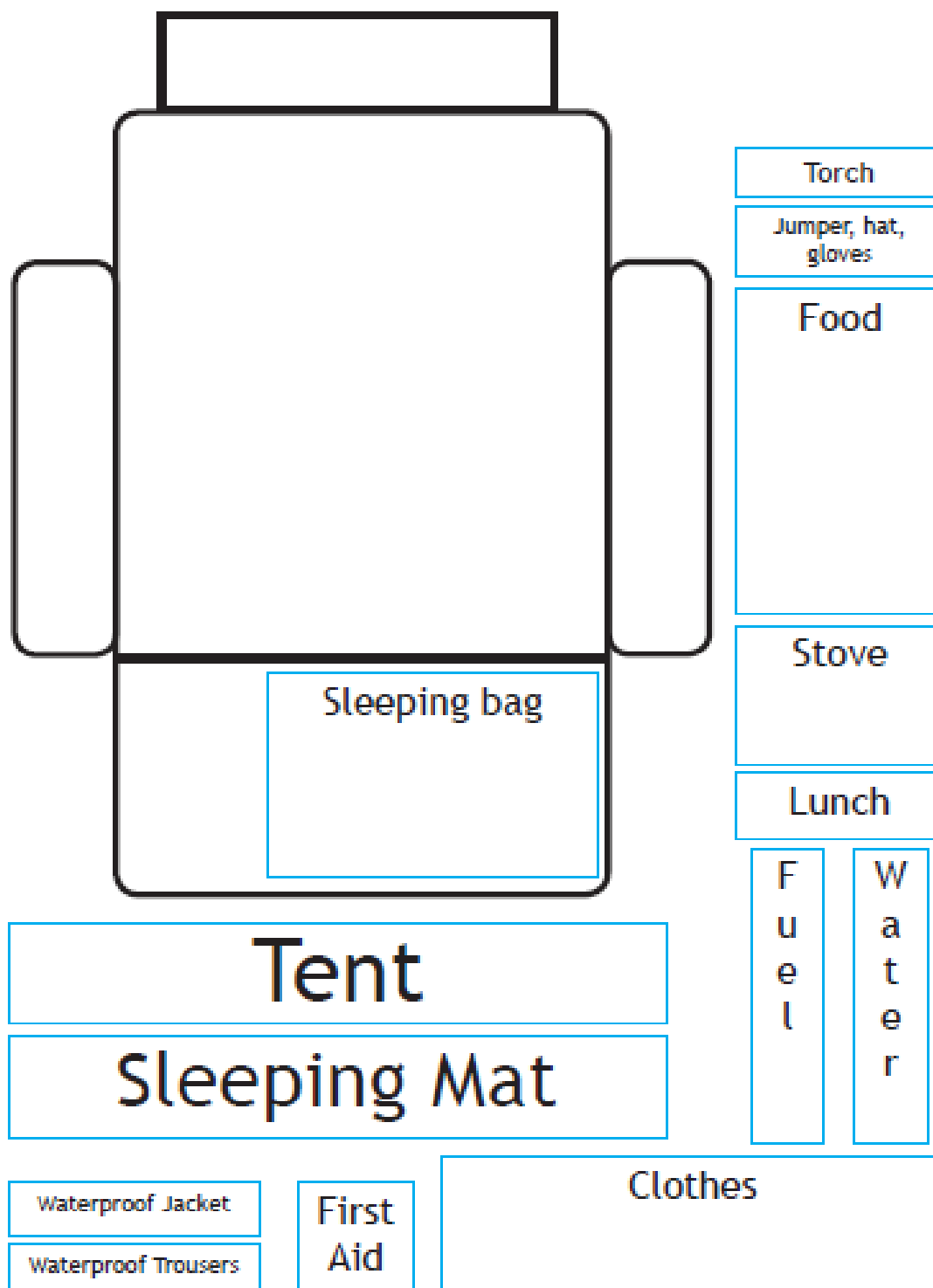
**Keeping things dry.** You should use a waterproof liner inside your bag to keep the big things dry – heavy duty rubble sacks or bin bags are good cheap options. Plastic freezer bags are good for smaller items. Do not just rely on the rain cover as it will fail after time.

**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.



## PACKING YOUR RUCKSACK

Below is a representation of a rucksack with top pocket, side pockets, main section and lower section. Draw in the items where you would place them. An approximation of the size of items is shown (though you may wish to change the shape of items such as clothes and food). Feel free to add things that are not listed.



The diagram shows a rucksack with the following compartments and items:

- Top Pocket:** A small rectangular pocket at the top.
- Main Section:** The large central area of the rucksack.
- Side Pockets:** Two vertical rectangular pockets on the left and right sides.
- Lower Section:** A rectangular area at the bottom of the main section.
- Items to be Packed:**
  - Torch** (Top Pocket)
  - Jumper, hat, gloves** (Side Pockets)
  - Food** (Main Section)
  - Stove** (Main Section)
  - Lunch** (Main Section)
  - Fuel** (Lower Section)
  - Water** (Lower Section)
  - Sleeping bag** (Lower Section)
  - Tent** (Below the rucksack)
  - Sleeping Mat** (Below the rucksack)
  - Waterproof Jacket** (Below the rucksack)
  - Waterproof Trousers** (Below the rucksack)
  - First Aid** (Below the rucksack)
  - Clothes** (Below the rucksack)



## Guide to EATING & DRINKING

It is really important that you have plenty of energy and are hydrated during your training walks and the assessment expedition. Although it is tempting to eat chocolate and sweets for the whole weekend this will a) not be very good for you and, b) not actually give you the nutrients and energy you need for an extended expedition walk. In addition, you have to cook a proper meal as part of the 20 conditions of the expedition. Use the information below to make sure you come prepared.

You can use the 'make a menu' cards for some food ideas or download the DofE cooking app.

### Pre-walk Breakfast

- It is essential that you have a decent breakfast on the morning of the expedition.
- Toast or cereal is good but try to avoid a large fatty meal which is difficult to digest.

### Lunch during the expedition

- Best policy here is to eat little and often, not stop for a luxury picnic – you will not want to get up again and your body will cool down.
- Try to get a mix of food; sandwiches are fine, cereal bars, have some fats (chocolate, nuts) and some fruit such as apples or bananas.
- Don't bother with a lunch box, it add unnecessary weight.



### Evening meal

- The priority here is something that is quick & easy to cook, easy to eat, hot and generates minimal washing up/cleaning. Try to choose something that has plenty of calories to replace the ones you've burnt on the walk.
- Many people opt for boil in the bag or dehydrated ration pack style foods. These are good as they contain plenty of calories and minimise clearing up. The dehydrated meals are also light to carry. Only disadvantage is they are fairly expensive.
- Suppliers include; [Be Well Expedition Foods](#) (Thai Curry with rice is good), [Expedition Foods](#), [Wayfarer Meals](#).



### Snacks

- Quick burst energy foods that are fast and easy to eat on the move. Cereal bars, chocolate, bananas are all a good source of energy when things are feeling difficult.

### Walk breakfast

- No time for a fry up here... but you do need a good breakfast to get you through the second day.



- Again there are some great boil in the bag options of a couple of those porridge sachets where you just add the water. Porridge provides slow release energy so is an excellent choice for breakfast.
- Use cereal bars as a last resort and don't forget to have a hot drink; it will wake you up, warm you up and make you feel much better!

### Drinking

- Very, very important
- It is essential that you drink enough water to keep your body going when you are on your expedition. You should drink small amounts, regularly - *as a guide your body need ½ a cup of water for every 100 calories used. Walking uses a minimum of 150 calories and hour, much more so in hot weather so do the sums.*
- Carry a water bottle or bladder (camelback etc) and make sure you carry at least 1.5 litres.
- Make sure your bottle is strong; you don't want to lose your ability to carry water.
- When you top up your water on the moor check to see the source is as clean as possible, you are after clear running water with no evidence of pollution such as deceased animals nearby. Remember to add water purification tablets to your supplies.

### Emergency food pack

- Needs to include enough food to keep you going for an extra 12-24 hours on expedition. This is a compulsory item that you must carry.
- It should include, high energy foods e.g. mars bars and hot drinks such as cup a soups and drinking chocolate.
- Seal it all in a clearly labelled bag 'emergency rations'.

### Cooking Safety (for more info see info sheet: stove guide)

- Practice using your stove in good conditions at home/college - this will make your life easier when you are in the dark and it's raining!
- **NEVER cook inside your tent;** if it catches fire it will melt in seconds covering your body in molten nylon.
- Cook well away from the tent and shelter the Trangia from the wind.
- **Take all rubbish away from you, leave nothing on the ground.**



### Toilet/hygiene Etiquette

- No not defecate near to buildings, water sources or agricultural livestock
- Use the toilet trowel to dig a shallow trench (a couple of inches deep); if too deep the material will not decompose. Cover up the hole afterwards.
- Burn toilet paper or carry out in a small sealed bag - DO NOT leave on the ground.
- Make sure you wash and stay clean during the expedition, there are some good waterless soaps available or use wetwipes. You must make sure you clean your hands before preparing food – use anti-bacterial hand gel.

## Guide to SAFE USE OF STOVES

**There are a variety of stoves available on the market to cook delicious meal whilst on expedition. Some are designed to be super lightweight, reliable, burn a wide-range of fuels, safe, cook for large numbers etc. You will be using a tried and tested stove called a Trangia. They have been used worldwide for many years and are strong, easy to use and safe if used correctly.**

### Location

- Take some time to pick the cooking location. A firm level surface at ground level where the stove will not be knocked over is ideal and it must be at least two metres away from flammable items/tents.
- Consider the weather conditions and wind direction.
- Make it clear to other people that stoves are lit/hot and get everything needed together before starting to cook. Have somewhere safe nearby to put hot pans.

### General safety

- Always be familiar with the stove and fuel before setting out.
- Be confident in how to use the stove and what dangers are associated with it and the fuel, for example gas canisters.
- Have water and (if possible!) a wet tea towel nearby, ready to use as a fire blanket. Always be careful to check if there is a flame or not, especially in bright sunlight.
- Never leave a lit stove unattended or unwatched.
- DofE participants and adults need to follow their Licensed Organisation's policies and the instruction and safety guidance given by the manufacturer of the stove they have chosen to use.

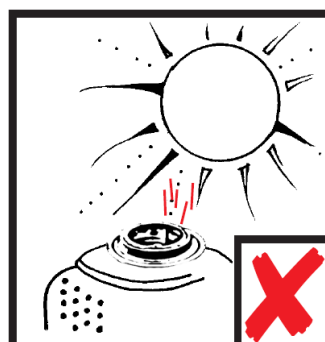
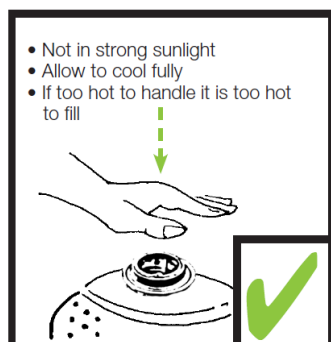
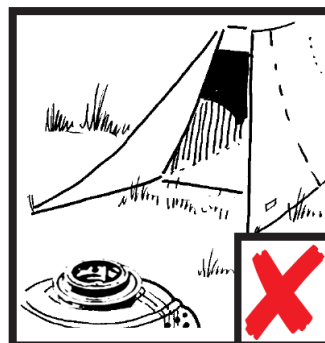
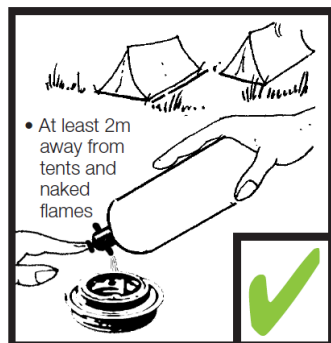
### Gas Stoves

- DofE teams must never use a gas stove that does not use self-sealing cylinders or cartridges.
- Remove cartridges from the stoves for journeying and replace part used cartridges for full ones before the expedition.
- It is best to use a gas stove that is low, stable and easy to shield from the wind.
- For exposed areas participants can use winds shield made of aluminium foil which can be bent into shape.



## Spirit Stove Safety Instructions

- The stove must be placed on a firm level surface at least two metres away from flammable tents/items, in a place where it cannot be knocked over.
- Fill the stove from a small container, NEVER from a bulk container such as a one gallon can or plastic container.
- The spirit must be carried in bottles designed for the purpose with a screw top and a safety valve. These should normally be around half a litre capacity and the stoves should be filled from these bottles.
- Fuel should not be handled near to tents or any naked flames; it is good practice to have a 're-fuelling area' where fuel is handled away from the cooking area.
- One person should carry the stove or spirit cup downwind, away from tents and should be re-fuelled away from naked flames.
- Take great care when re-fuelling the stove, make sure the flame is completely extinguished (the flame can be invisible in sunlight) and that the burner has cooled before you remove it for re-fuelling.



## Navigation and Route Planning

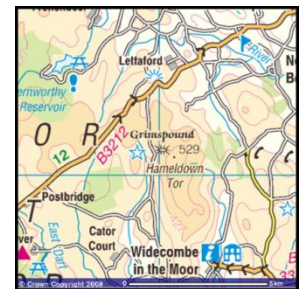
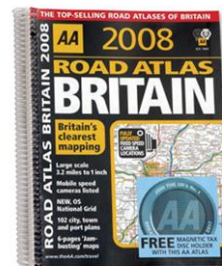
You will need to learn the basic skills of map reading and using maps in the outdoors to be able to safely complete your expedition. Navigation skills will prevent you from straying off route and losing time, and more importantly stay safe when you are on your own. The information below is an introduction to basic maps navigation.

### Map Scales

#### 1.250,000 Scale Road Atlas

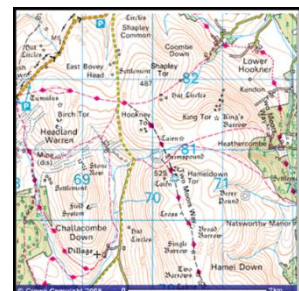
This means that an area or distance on the ground would be shown 250,000 times smaller on the map.

You need to consider how these maps might be used and by whom.



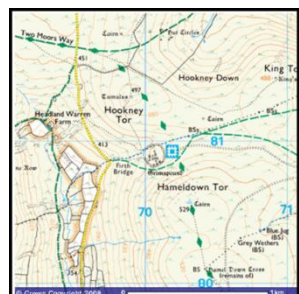
#### 1.50,000 Scale

This means that an area or distance on the ground would be shown 50,000 times smaller on the map.



#### 1.25,000 Scale

This means that an area or distance on the ground would be shown 25,000 times smaller on the map.



## Height on maps

**Relief** is the height and shape of the land.  
Another word for this is **Topography**.

Relief is shown on a map in three ways;

### 1. Spot Heights ● 109

The height at this location is 109 metres above sea level.

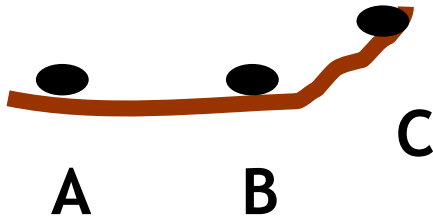
### 2. Triangulation Points ▲ 214

The height at this point is 214 metres above sea level.

### 3. Contour Lines

Contour lines join together all places of the same height.

Places A, B & C are all 100 metres above sea level



*The Landscape*

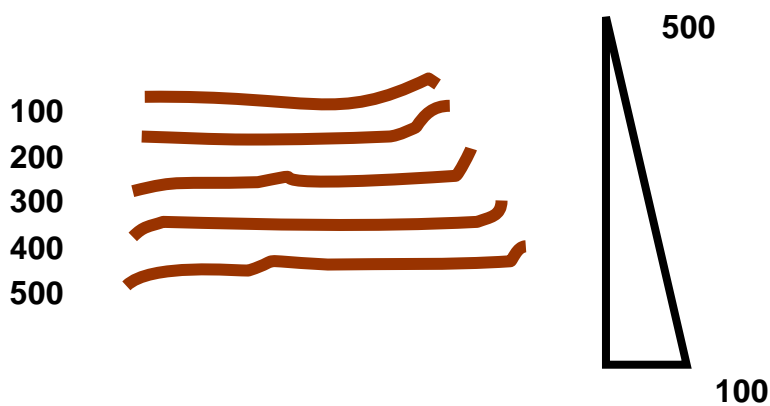


*A Relief Model*

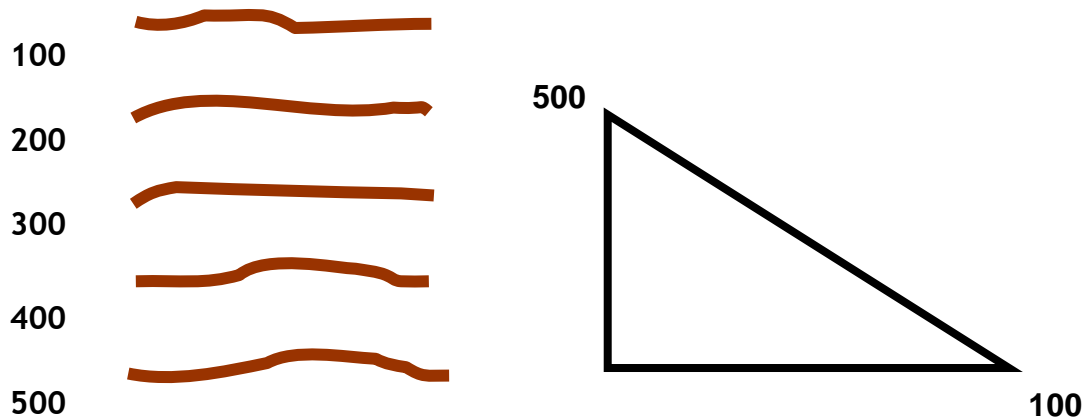


*Contour Lines*

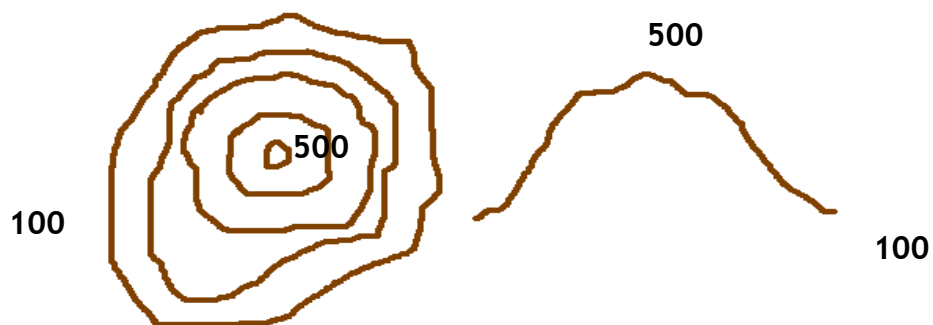
**Contour lines** tell us about the height and slope of the land.



Contour lines that are closer together show a steeper slope.



Contour lines that are further apart show a gentle slope.



Hills are shown by circles of contour lines showing places that are the same height.



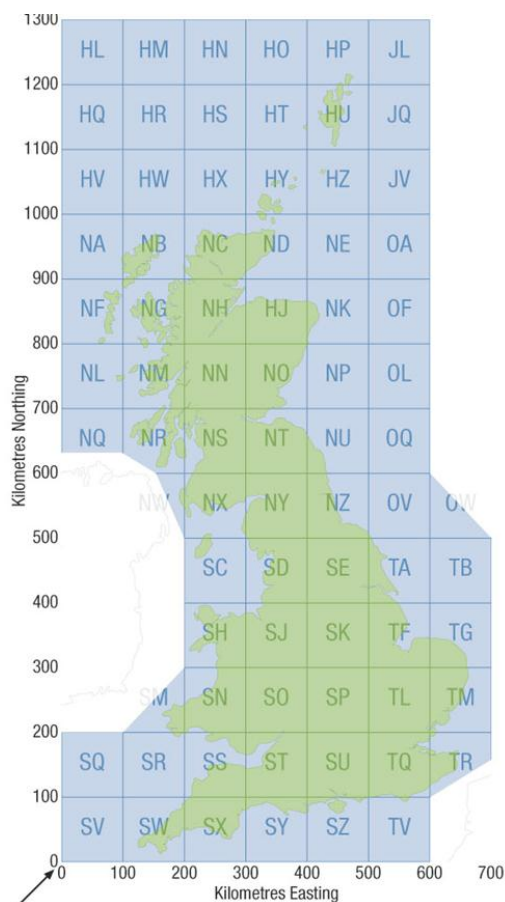
## Grid References



i. 500 kilometre squares of the National Grid

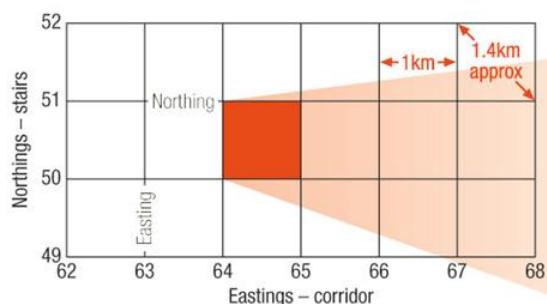


ii. Each 500 kilometres is divided into twenty-five 100 kilometre squares



iii. 100 kilometre squares that cover Great Britain with their reference letters

- iv. 4-figure grid reference (1km square). Grid references must always be read in the following order:  
Eastings – “Along the corridor...” (63, 64, 65 etc.)  
Northings – “... and up the stairs” (49, 50, 51 etc.)



- v. We can divide each grid square into 10 further Eastings and Northings to enable us to mark a feature to an accuracy of 100 metres. If we take this diagram as grid square 6450 we can plot a specific location within the one square kilometre.

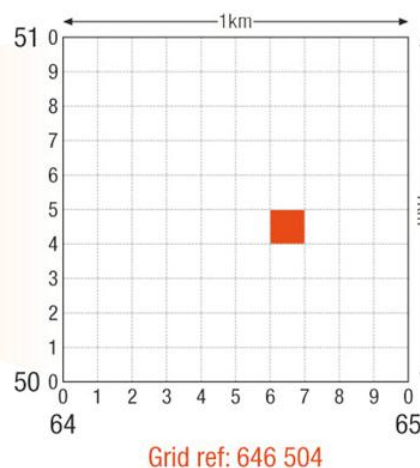


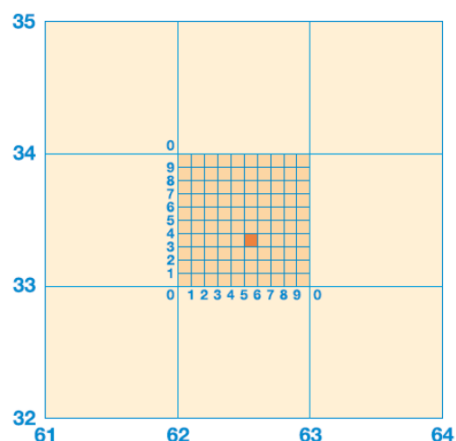
Illustration from 'Hill Walking' © MLTUK/ VG 2003





**Four Figure Grid Reference SX 61 34**

**Six Figure Grid Reference SX 625 333**



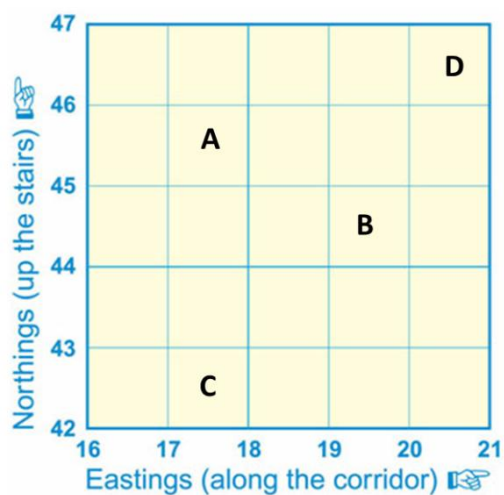
**What are the Four Figure Grid References for?**

A.....

B.....

C.....

D.....

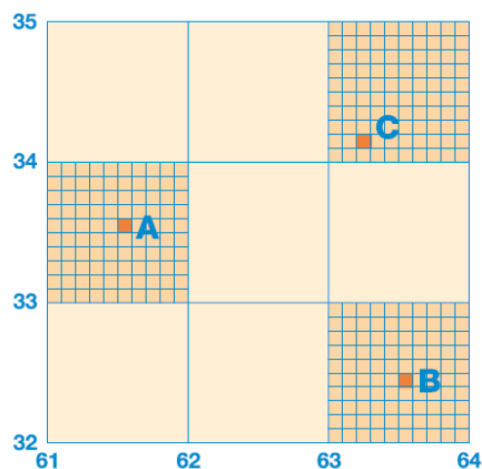


**What are the SIX figure grid references for?**

A \_\_\_\_\_

B \_\_\_\_\_

C \_\_\_\_\_



## Route Planning

You must plan and organise your expedition and part of this is planning your route. You will have to plan out and record the details of your expedition on a route card as a statement of your intentions for your expedition.

### Building a route card:

1. **Choose a departure point:** use a separate route card for each day, record your departure point and end point for the days journeying.
2. **Define route legs:** After planning the days travel, divide your route into natural divisions of roughly equal length ending at a clear landmark such as a road or path junction. These become expedition 'legs' ending in a 'checkpoint'.
3. **Estimate timings:** You then need to estimate how long it will take you to complete each leg.
4. **Calculate ETA:** Using your timings, you will be able to calculate what time you will arrive at each checkpoint and what time they will set out on the next leg.
5. **Identify escape routes**
6. **Produce route details:** include general information about the team name, team member's names and emergency contact details.

## Emergency Procedures

It is very important that you know what to do if something does not go to plan. Your team will be given EMERGENCY ACTION CARDS in case something does go wrong during your expedition.