

5 Equipment

This section gives information on the kit you need.
Some equipment can be borrowed for free from the D of E kit store e.g. maps, tents, rucksacks, stoves & gas.

Please return kit promptly and in a clean and dry condition directly after use.

The three most important personal clothing items are:

1. **Waterproof jacket:** being wet and cold in bad weather can kill.
2. **Walking boots:** uncomfortable boots can be so painful that they will finish off your hike.
3. **Over trousers:** in really bad weather these can warm you up and keep you safe from hypothermia.



Walking Boots

Trainers are tolerated for Bronze but boots are strongly recommended for Silver and compulsory for Gold. Do NOT bring fell shoes, boots only.

Buy good quality waterproof walking boots, either leather or fabric Gore-Tex. Get advice in an outdoor shop before buying! Try them on with good quality walking socks. Boots should be comfortable and give ankle support and must never be too tight. Too loose is better than too tight.

Not all fabric boots are waterproof, unless they have a waterproof lining made of Gore-Tex or similar material.

Apply Nikwax to leather boots before the trip to make them waterproof.



Wear the best quality walking socks you can afford. Avoid sports or nylon socks which may give blisters.

Watch: You Tube

“Hiking Boots – selecting” 1m 17s; “Backpacker's Gear School: Prevent Blisters” 5m 13s

Clothing

Wear anything comfortable. Light weight clothing that builds up in LAYERS is best.



Figure 1 Use the layer system.

Layers of clothing allow you to adapt to varying weather conditions.

Lots of thin layers are better than a few thick ones.

You can buy specialist outdoor clothing, but it can be expensive. To reduce the cost, aim to build up your outdoor clothing collection if you get more serious about outdoor activities. At first, you must spend most on your outer waterproof “shell” layer.

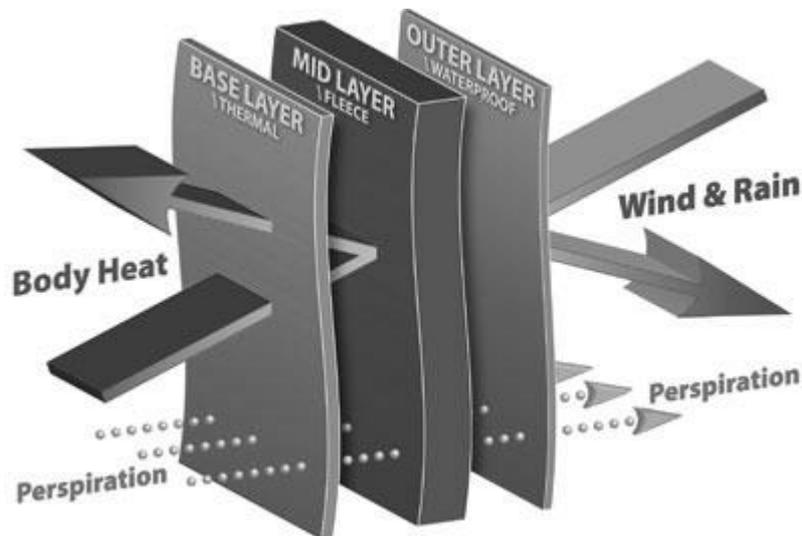


Figure 2 Breathable layers allow sweat to get out and keep you dry from rain.

What follows are some useful details about each layer. Read them to be comfortable and safe on expeditions.

Base layer

The layer next to your skin is called a base layer. It should be good at *wicking* (pulling moisture away from your body) to keep you warm and dry.

Cotton is a poor choice because it takes ages to dry and therefore leaves your skin damp and cold. However, a cotton T-shirt is OK for D of E summer expeditions because it can cool you down on hot days.

For spring and autumn trips you should consider buying proper base layer T shirts or thermals from an outdoor shop or online (Millets, Blacks, Snow and Rock, Cotswold etc). DofE discounts are available in Cotswold.



Figure 3 Base layers keep you warm, dry and comfortable.

Mid Layer

The mid layer keeps you warm. The most popular choice is a **fleece**. This is lightweight, durable, dries quickly and wicks moisture. A woolly jumper is also good.



Figure 4 Fleece jackets are very effective as they absorb less than 1% water vapour.

Outer Layer

Fully waterproof jacket and over-trousers are compulsory. Your waterproofs need to stop the rain, keep you dry, and keep out the wind but retain body heat. *It is vital to get the correct waterproofs for expeditions.* Get advice before buying.

To be certain of getting a suitable waterproof jacket and trousers, visit a shop like Millets (Redhill) or Blacks (Crawley) or Cotswold (Guildford) or Snow and Rock (Chertsey M25 J11) and try on several jackets with hoods which can be drawn down to protect your entire face. Expensive jackets are often breathable (e.g. Gore-Tex).

A good waterproof jacket will probably cost over £50. It should last years and be suitable for Gold hikes and plenty of future expeditions and holidays.

What not to wear

*NO! sports jackets ... In some high street sports shops a label saying "waterproof" does **not** necessarily mean that it is suitable for exposure to days and days of rain in mountains. These are not mountain jackets. You might get very wet and cold in these garments and your assessor will not allow you to start the expedition.*

*NO! Lightweight "packable" style-jackets are unsuitable for Silver and Gold expeditions. They may be just about OK for Bronze hikes but even then are **not** really suitable, even if they claim to be "waterproof". Please ask if unsure.*



Figure 5 An example of a decent waterproof jacket: note the large hood, sometimes "wired".

Rucksacks and packing

A 65 litre rucksack is sufficient for DoE expeditions.

No rucksacks are waterproof, so pack your gear inside plastic bags, especially your sleeping bag. (Tip: assume your rucksack will be dropped in a river, then pack accordingly!).



Figure 6 A well packed and adjusted rucksack.

Make your rucksack as **LIGHT** and as comfortable as possible. An overweight pack will slow you down, become very uncomfortable and could cause more injuries. Very heavy packs show inexperience and bad planning, not toughness or heroism!

RULE OF THUMB: When packed, your rucksack should not weigh more than 1/3rd of your bodyweight. You ought to be able to pick it up with ONE hand without a struggle (but only do this as a test).

To keep the weight down take only those things you absolutely need and cut down on unnecessary items. Lay out everything you think you want and then throw half of it out; be ruthless when packing!

The way a rucksack is packed is important because it can affect your balance, your posture, and your breathing. Pack light things in the lower part and the heavier things in the upper part. This means that the centre of gravity is high on your back and the rucksack is easier to carry. Adjust straps properly.

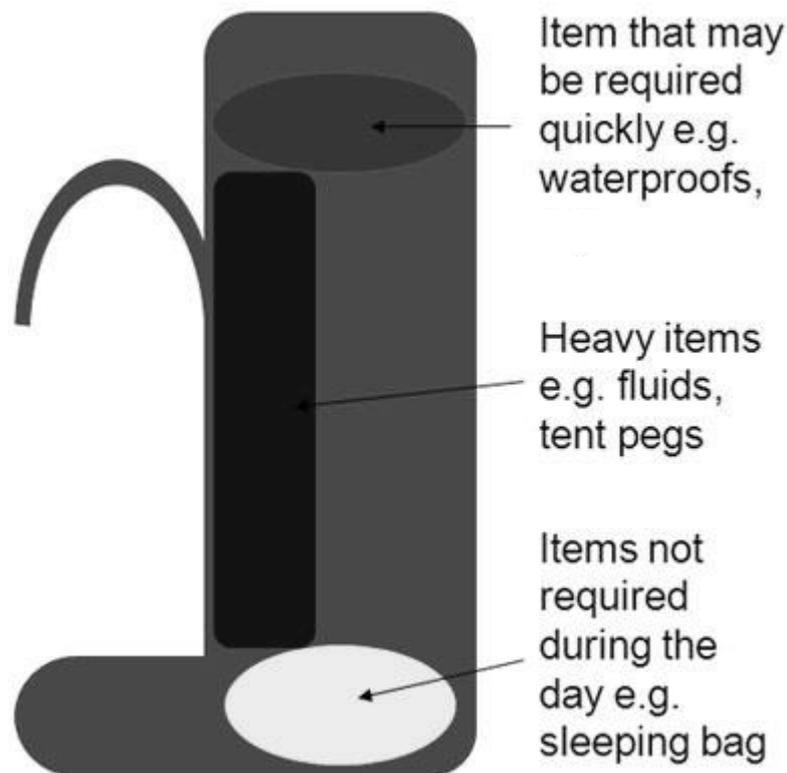


Figure 7 Pack your rucksack properly for comfort.

The total weight will be the same however you pack it, but it is much less tiring when the rucksack is packed and adjusted properly.

More packing tips:

- EVERYTHING in the sack, nothing outside.
- Take a **small** towel.
- Small bar of soap (cut one in half).
- Partly-used tube of toothpaste.
- Share out tent parts and food with other people in your team.

When packing your rucksack follow these rules:

- WATER PROOFS AT THE TOP: first in – last out: things you need quickly during the day include waterproofs and lunch go at the top!
- Heavy at the top; light at the bottom
- Sleeping bag at the bottom wrapped in several bin liner/s
- Pad out the back with soft stuff like towels & spare clothes
- Tent, stoves and KFSMP go in the middle with the food.
- Everything in plastic bags! Use transparent ones to help find things.

Load carrying

You should be able to lift your rucksack on your own without straining. If you can't it's too heavy and you need to chuck stuff out!

Now put it on. Lift it with both hands and don't "sling it" on.

Lift it so it sits high on your back and then tighten the hip belt.

Let it settle and then tighten the shoulder straps.

The rucksack should feel comfortable and much of the weight should be taken on your hips. Remove piercings before expeditions: they can snag on straps.



Low centre of gravity
Heavy rucsac

High centre of gravity
Lighter rucsac

Figure 8 Get the straps right.



Figure 9 Light, well packed rucksacks = happy hikers!

Tents

Your tent is a survival aid and it is essential to check it and treat it with care. It is your only accommodation so treat it nicely!

1. Check it

Put it up before you go: check pegs and poles & for damage.

2. Pack it

Split it up between your group and be very careful not to lose any bits.

3. Pitch it

Select site carefully. Pitch away from trees and boggy ground.

Avoid sharp stones.

Use **hands only** to put in pegs (not boots!).

Be careful with pegs, poles & flysheet, do not force them.

Store peg bag and pole bag inside the tent bag and put inside the flysheet.

Do not leave tent bags lying around outside your tent.

4. Pet it!

Be gentle, tents are quite fragile!

Don't force zips or poles. Don't wear boots inside.

Fire: Keep naked flames away from the tent.

Avoid contact between inner and outer flysheet.

5. Strike it

Release tension straps and guys. Pack away carefully. Sweep for pegs, poles, litter etc.

6. Dry it out

Once home, the tent (and other equipment) must be cleaned and thoroughly DRIED OUT, including poles and pegs! Otherwise, it goes mouldy and rots and you will be charged for replacement.

7. Bring it back clean and dry!

Please return school kit as soon as possible.

- If it is *wet or mouldy or dirty* you will be stopped from borrowing more equipment until it is cleaned.
- If it is returned *damaged* beyond "normal wear and tear" you may be charged full replacement cost.



Stove

You must cook at least “*one substantial meal everyday*” (DOE rules).

You will use a **Trangia stove** which runs on gas. Other gas stoves may be used if you have one but check with me first.



You can borrow a stove and gas from the school kit store.

Find out how to use your stove **before** you set out (**demonstration and test**).

Tips

- NEVER use your stove in or near your tent (even if it's raining)
- Ensure the gas valve is closed before assembling.
- Do not put on or take off a cartridge near any naked flame.
- Don't forget gas and matches!



Figure 10 Please clean stoves before returning them to school.

For advice on cooking and food: see Camp craft.

Using the DoE kit store

You can borrow tents, rucksacks and stoves from the kit store.

Before your expedition:

1. Decide what you need to borrow.
2. Visit the kit store between 1.15pm and 1.50pm any school day.
3. Complete and sign a BLUE kit order form.
4. **CHECK all kit!** Does it work? Is it complete?

After your expedition:

1. Return it to school dry & clean ASAP.
2. Tell us of any damage or missing parts (no charge for reasonable wear and tear or accidental damage, but please be honest and tell us!).

Tents are nearly always wet after expeditions. YOU must dry it by hanging on a line or pitching it. They will dry very quickly outside on a breezy day. Wet tents left in bags will **rot** after a short while and will become useless.



Figure 11 Please own up if kit was damaged.

Most pupils are good at looking after school equipment but sometimes:

- Kit is returned damaged &/or dirty without owning up.
- Kit is returned all mixed up: e.g. flysheet and poles don't match.
- Kit is lost.

You may be billed or banned from using school kit if this happens.

Please help future trips by looking after the kit!

Now see demonstrations of rucksack packing and adjustment & tent pitching.