Friday, 22 May 2026

DofE Expedition Training

Mr. Hill

Outline of Sessions

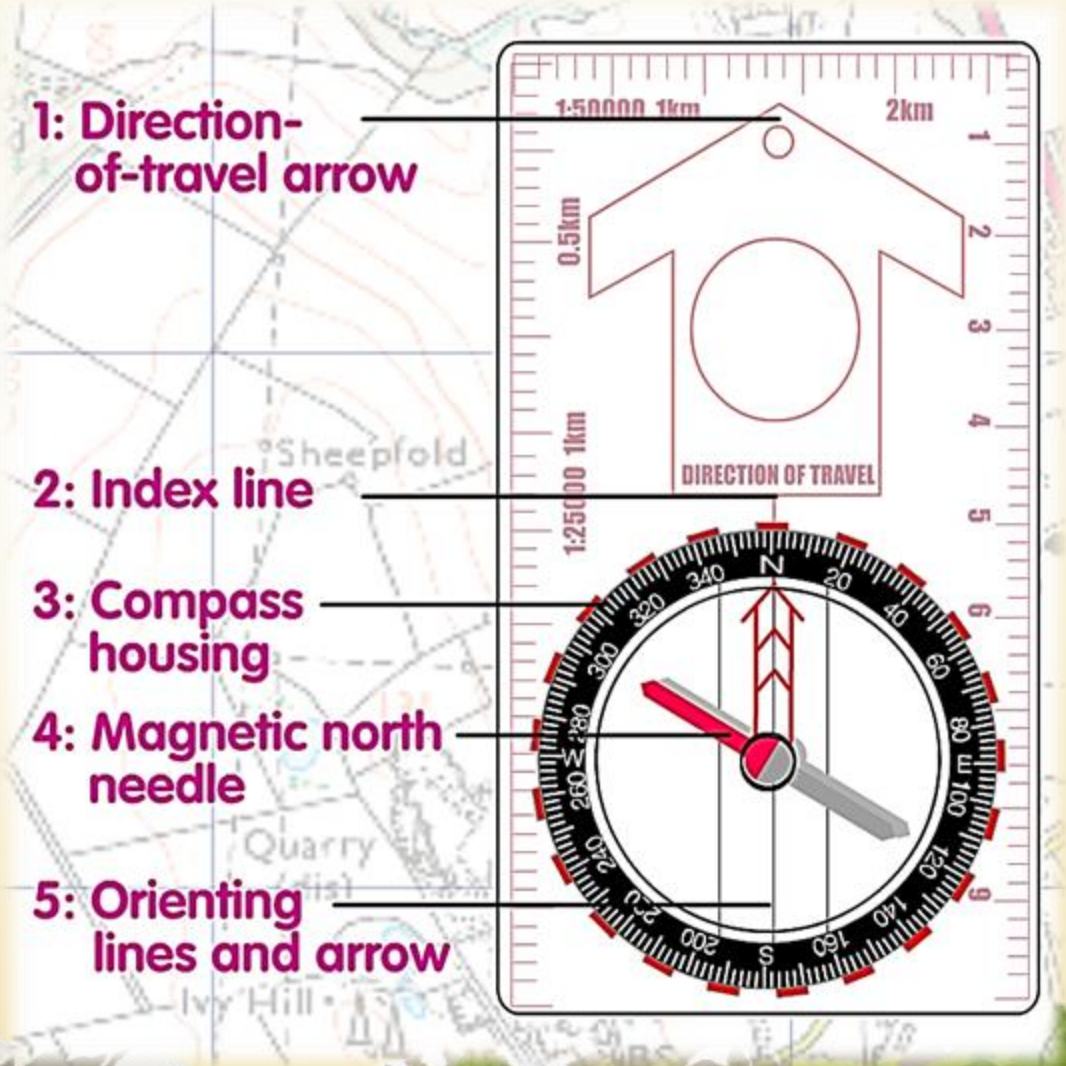
1. The 20 Conditions and Expedition Purpose
2. Maps and Symbols
3. Map Reading & Navigation (inc. Route Card Completion)
4. Compass Use and Walking Techniques
5. Safety Kit and Procedures
6. Food Selection and Stove Safety
7. Kit Selection and Bag Packing
8. Camp Craft and the Countryside Code

Session 4

Compass Use and Walking Techniques

The Parts Of The Compass

- Silva is a company that is most famous for making the types of compasses that we use on expeditions.
- The main parts are shown here →

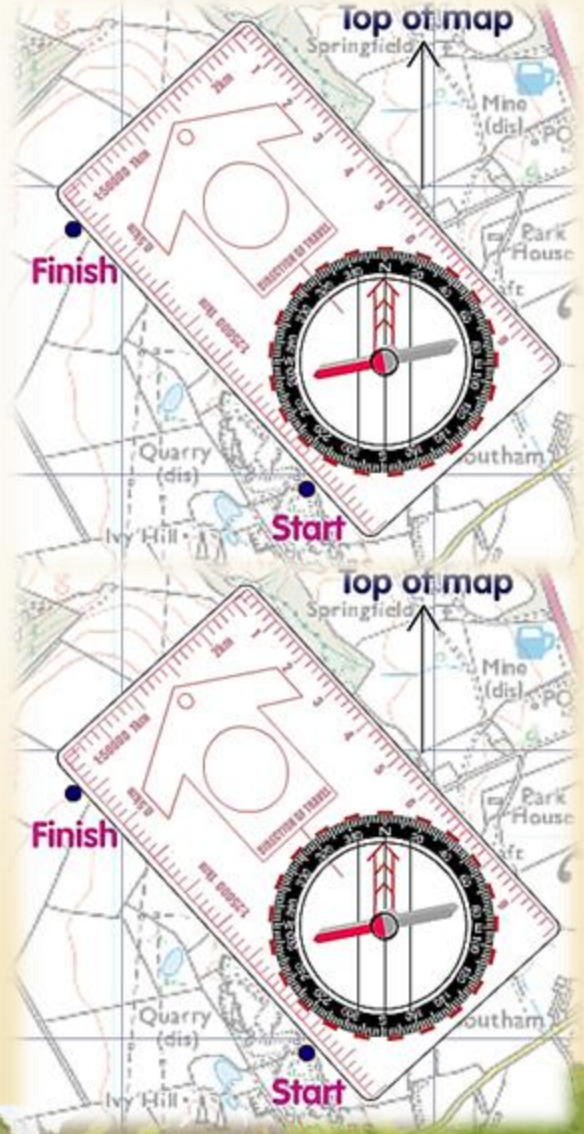


Taking Magnetic Bearings 1

1. Find the two points on the map that you want to travel from and to. Line up your compass edge between the two points, so that your direction of travel arrow is pointing to your destination.
2. Rotate the compass housing until the orienting lines in the centre are pointing to the top of your map.
   - You can do this by lining them up parallel to the grid lines.

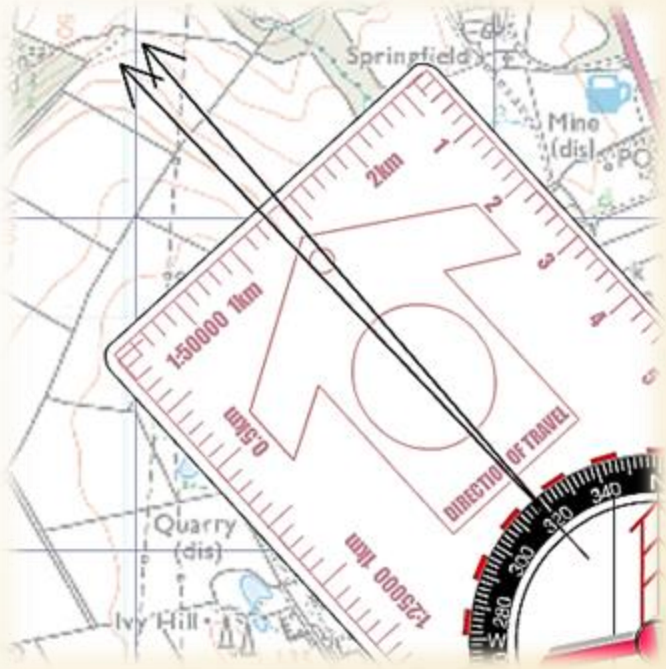
Taking Magnetic Bearings 2

3. Rotate the dial until the north pointer lines up with the mark on the dial that joins the direction of travel arrow
   - This is called the index line
4. Read the bearing at the bottom of the direction-of-travel arrow, at the index line.
   - In the example, the bearing is 320°.
   - You will need to take into account the difference between grid North and magnetic North.
   - This is called magnetic variation and your map will tell you how many degrees to add to your bearing.



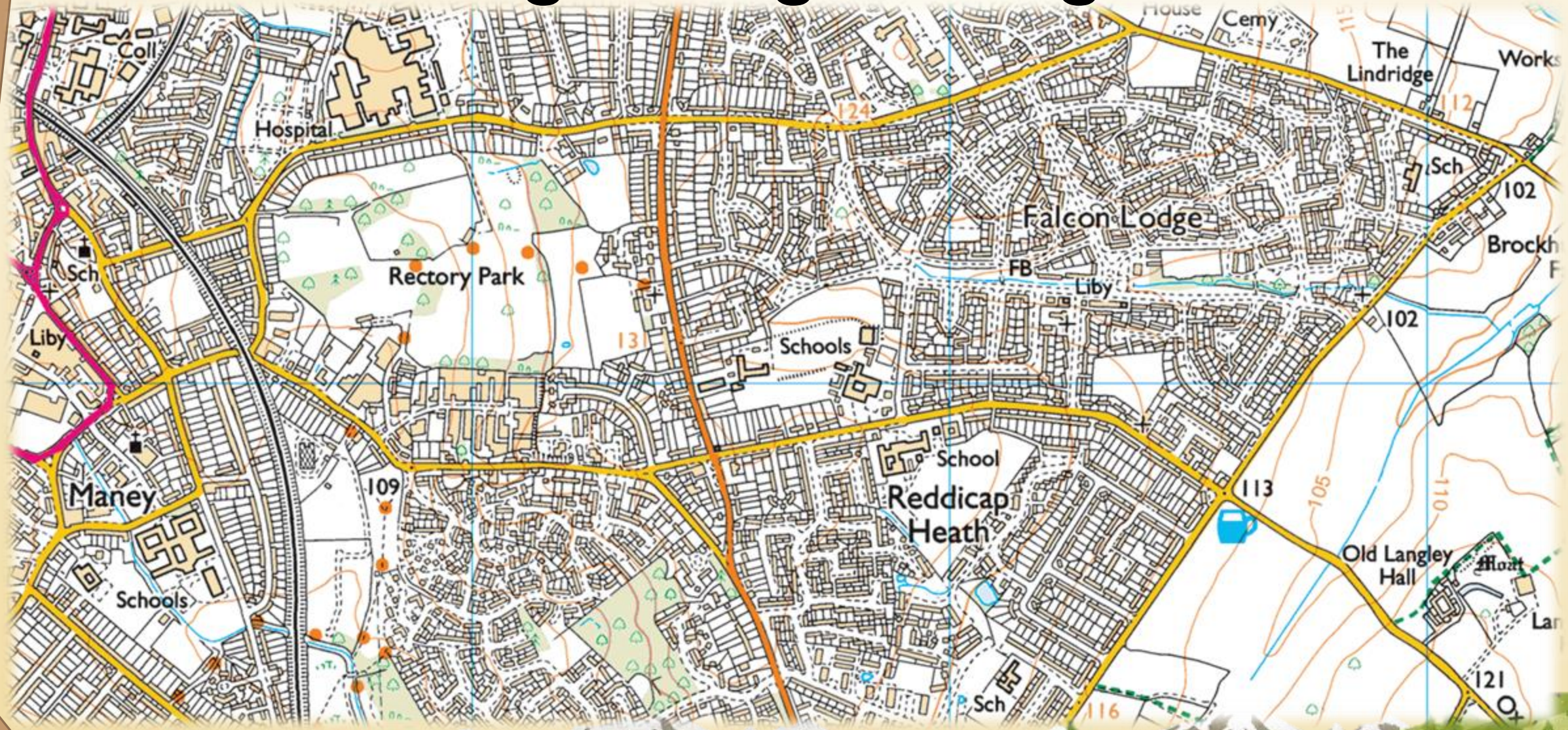
Walking On A Magnetic Bearing

1. To head in the right direction, you must now re-orientate your compass.
   - This means turning the whole compass around until the magnetic North needle points in the same direction as the orienting arrow.



2. Walk the way the direction-of-travel arrow is now pointing to get to your destination.

TASK: Taking / Using Bearings Practice



Walking Techniques – The Basics

ALWAYS

- Walk at the speed of your slowest member
- Check your position on the map regularly
  - Keep your thumb on the map where you are!
- Watch where you put your feet!
  - Avoid slippy roots / loose rocks

NEVER

- Have a rest, waiting for slow people to catch up, then start off again the second they arrive
  - They need a rest too!
- Leave or allow your team to spread out too far
- Keep walking if you don't know where you are!

Walking Techniques – Setting Your Map

- Setting (a.k.a. "orienting") your map allows you to see features on the map in the same place as they would appear in real life
- e.g. If a forest is slightly to your left on the map, that's where it is if you look up too
- Do this by lining up any linear features your can see
- OR put your compass on the map and rotate the whole lot until the North needle lies along a North gridline

Walking Techniques – Pacing / Timing

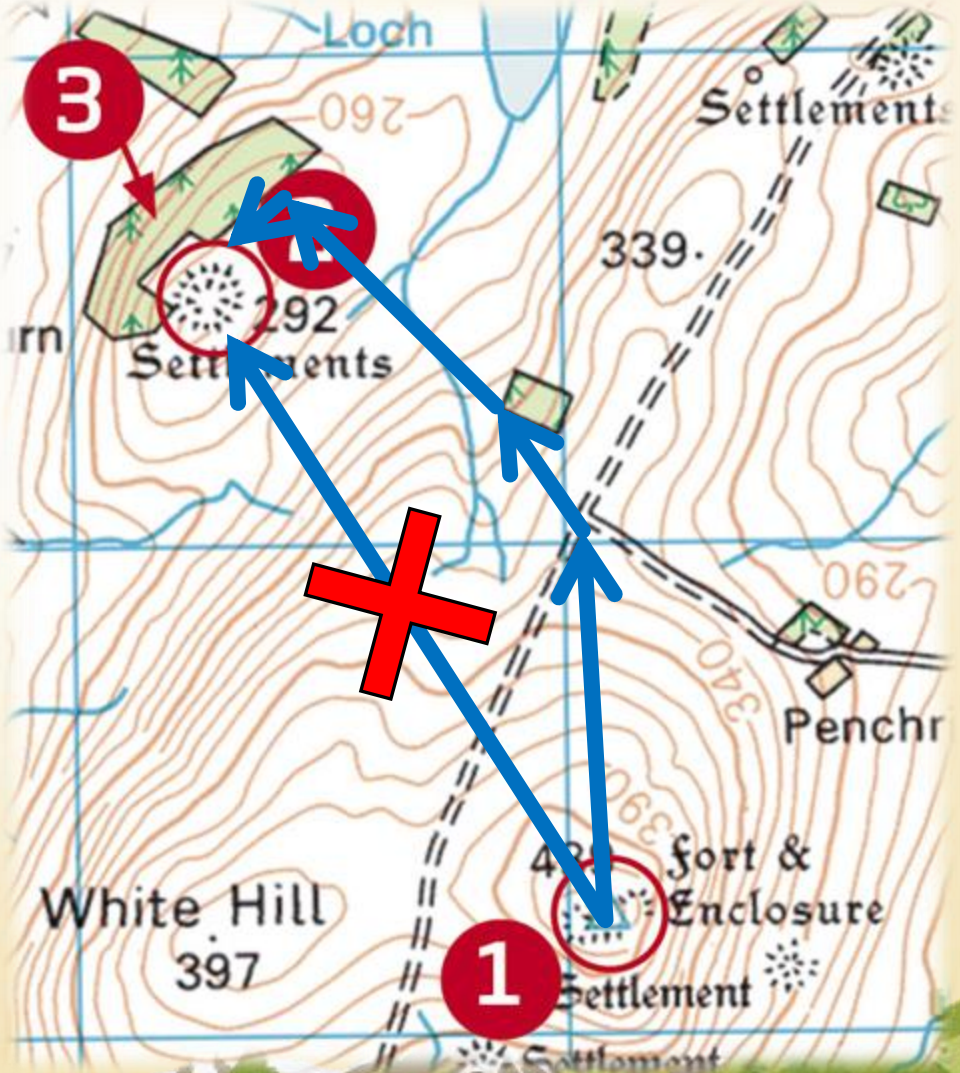
- Knowing the direction to head in helps, but knowing how far to walk in that direction is just as important
- Every person takes a different number of normal steps to reach 100m.
- Mark out 100m and walk it, counting each time your left foot hits the ground. Remember your personal number!
  - Around 50-70 steps is normal for 100m
  - Going uphill / downhill / across soft ground will affect this
  - Grab a handful of pebbles. Throw one away every 100m you walk.
- Knowing that you walk at 4 km/h means you will move 1 km every 15 minutes – useful for distance estimation!
  - Apply this idea to your group's normal walking speed

Walking Techniques – Hand Railing

- Hand railing is where you use a natural feature on the ground to send you in the right direction rather than relying on your map and compass
- This is much easier to do than walk on bearings alone
  - e.g. If the edge of a forest runs along the left side of a path that you have to follow, if you find the trail and keep the forest on your left you know you are going the right way!
- Off trail, you could follow the path of a river further downhill or a string of large, single trees marked on your map, or even dry stone walls running around the edges of adjacent fields

Walking Techniques – Attack Points

- Attack points are like a list of ‘things to walk to’ in order to make sure you hit your final destination
- DON’T try to aim straight for an individual tiny feature, follow a series of visible features to get there!
- e.g. If you wanted to walk from the trig point to the settlement…



Walking Techniques – Catch Points

- Catch points (a.k.a. Collecting points) are objects or features that stop you from walking too far in the wrong direction
- e.g. You need to walk along a footpath and take a left to join a minor track. You might miss that turn, so you know if you walk past a set of buildings, you've gone too far!
  - STOP - REASSESS - FIX it!

Walking Techniques – Aiming Off

- **Aiming off** is similar to an attack point, but you **intentionally aim for a linear feature before walking along it** to your destination
  - e.g. A **treeline, river, path or road**
- Useful when there is a chance you'd miss your target if you headed straight towards it

Walking Techniques - Contouring

- Contouring means staying at roughly the same height as you walk
- Gaining height just to lose it again wastes a lot of energy, so avoid doing it!
- Walking further around a hill (but staying flatter) often uses less energy that going up and over the hill