

Navigation learning resources

The benefits of good navigation skills

The ability to safely navigate is a core skill of a walk leader, and a useful skill for any walker in to have. Appropriate navigation skills enable you to:

- Accurately **plan** a trip
- **Communicate** the plan to others
- **Estimate the time** a walk is likely to take
- **Change plans** when something unexpected happens
- **Communicate positional information** to the emergency services if needed

Developing your skills

There are many ways that you can learn navigation skills, including:

- **Self-directed learning** (e.g. online films; navigation books)
- Learning from **friends** and fellow **walkers**
- Attending **training courses**
- **Professional training** (e.g. during a career in the armed forces, outdoor education or with mountain rescue)

In this factsheet we highlight short films that teach the basics of good navigation that will help you enjoy inspiring walks with confidence.

If you are new to navigating and you lead walks in the countryside we suggest you **start with the activities in this factsheet marked** . They will help you get familiar with the basics of using a map and will start to build your confidence.

Related factsheets

Use this factsheet alongside

- **Navigation skills introduction**
- **Navigation technology**

These are also available on the Assemble document hub.



Online resources

1. The basics

✓ Choosing a map

With so many different maps to choose from, which is best for the kinds of walks you enjoy?

[Click to watch](#)

✓ Symbols and legends

What does the visual language of OS maps tell us?

[Click to watch](#)

✓ Setting your map to the ground

How to orientate the map to help us translate the features around us

[Click to watch](#)

✓ Choosing a compass

What to need to think about when choosing a compass?

[Click to watch](#)

✓ Parts of the compass

What do different parts of the compass do and why are they important for navigation?

[Click to watch](#)

2. Developing techniques

✓ Tick-off features

What are tick-off features and how can they help us track our progress?

[Click to watch](#)

✓ How to take a bearing

Using a compass to take a bearing and lead off with confidence.

[Click to watch](#)

✓ Taking a bearing on a linear feature

Significant features like paths and rivers can help to reassure us we are on the right track.

[Click to watch](#)

✓ Following a bearing to go off the path

When we leave the path, how can we use a bearing to get safely to the right destination?

[Click to watch](#)

✓ Aiming off

Sometimes aiming away from our destination gets us where we want to go more effectively!

[Click to watch](#)

✓ Combining different approaches

Using a range of techniques helps us navigate safely.

[Click to watch](#)

3. Contours and slopes

✓ Understanding contours

How do maps help us understand the shape of the land around us?

[Click to watch](#)

✓ Finding your current location using 'aspect of slope'

How can contours help us find our current location?

[Click to watch](#)

4. Pacing and timing

✓ Timing our walks

How can you estimate how long a walk should take?

[Click to watch](#)

✓ Pacing

How to estimate how far you have travelled using the pacing technique.

[Click to watch](#)

5. Grid references

✓ Pinpointing your location

We all need to know how to provide a grid reference, especially in an emergency. Start with learning how to take a 4-figure grid reference.

[Click to watch](#)

A 6-figure grid reference will provide more accurate information about your location.

[Click to watch](#)

Group learning activities★

Take some time alone and with other people in your group to put some of these techniques into practice:

- ✔ **Plot a route and estimate how long it will take.** Do it individually and see how close you got to other people's timings. 
- ✔ At the start of a walk, **practice setting the map to the ground** using visible features such as paths, slopes and landmarks. Use a compass too. Do it in a group and see if you all set the map in the same direction. 
- ✔ Use these [OS flash cards](#) to **explore symbols and legends** in more detail. 
- ✔ **Identify a series of tick-off features** before you head out on your next walk. How easy is it to spot them all in the 'real world' when you are walking? 
- ✔ **Plan a mini route.** On a map choose two points, A and B, around 2km apart, in largely untracked hill country. Plan a route from A to B looking for handrails, aiming off attack points, tick off and catching features. Do this in groups and compare your route to other people's. What did you learn from each other? 
- ✔ **Practice taking 6-figure grid references.** Compare your reference with others in your group. Check your reference on apps like OS locate. How accurate were you? 
- ✔ **Practice taking bearings** on paths where you can easily check how accurate you are. How similar or different were the bearings different people took? What is the benefit of more than one person taking a bearing? Use an app like OS locate to see how accurate you were.
- ✔ **Count how many strides you take to cover 100m.** Is it different if you are walking up or down a slope? What variation is there is between different walkers?
- ✔ **Estimate your pace** by timing how long it takes to cover 100m.

1½ min	= 4 km/h
2 min	= 3 km/h
3 min	= 2 km/h
6 min	= 1 km/h

How does this compare to the planned pace of your walk? Do you need to make changes to complete your walk in the time you have?
- ✔ **Take time to feel the contours.** Spend 10 minutes focused on feeling the contours as you walk. Notice how different it feels walking on a diagonal compared to walking at 90° to a slope. Notice when the steepness of a slope changes.
- ✔ **Follow the contours.** On a slope, practice following the lines of a contour without going up or down. This is called 'walking a contour line'. One person can do this unaided, relying on their feeling of the slope. and another person can follow behind and use the altitude meter on OS locate to see how accurate you were.
- ✔ **Pinpoint your location using altitude.** Take a reading of your elevation using OS locate. Use this reading and the contours on your map to try and locate yourself. Use the grid reference from OS locate to check how accurate you were.

★ Always observe current coronavirus restrictions and guidance

What support does Ramblers Scotland offer?

At the Ramblers we're committed to supporting you as a walk leader in your volunteer role.

- We offer support, guidance and training to help develop your skills and confidence and to give you a chance to learn with other members and volunteers.
- We often promote training in our members newsletter, so make sure you sign up to get this at www.ramblers.org.uk/register. If you don't sign up we can't contact you, so don't miss out!
- If you have day-to-day questions about walk leadership, there will be loads of people in your group and area happy to share their experience with you.
- You can also contact us with any questions about walk leadership, or if you can't find walk leader training in your area.

Drop us a line at

walkleadership@ramblers.org.uk

- Ramblers courses are promoted through our volunteer website Assemble. We also use our Eventbrite pages where you can see what courses are available
eventbrite.co.uk/o/ramblers-scotland-8968954256

Navigation training

There are several providers of navigation training, including:

National Navigation Awards Scheme (NNAS) – UK Wide

The National Navigation Award Scheme (NNAS) is a personal performance, non-competitive, incentive scheme for all ages to learn navigation skills and gain confidence to get out and enjoy the countryside. NNAS courses are delivered throughout the country by over 300 providers.

www.nnas.org.uk

Mountain Training Association – UK Wide

1,000+ courses across UK incl. Lowland Leader, Hill and Moorland Leader, Mountain Leader.

www.mountain-training.org

Glenmore Lodge – Highlands

Courses in the Highlands include Summer Alpine, Winter Mountain, Expeditions and overseas trips

www.glenmorelodge.org.uk

Falkirk Community Trust – Central Scotland

FCT have a wide range of outdoor courses throughout the seasons.

www.falkirkcommunitytrust.org/fit-andactive/outdoor-activities/adult-activities/

Acknowledgements

Our thanks to Nigel Williams for additional learning activities.

The films highlighted in this resource were produced by Glenmore Lodge (Sports Scotland) and Ordnance Survey and are freely available on their YouTube channels.