Scouts Bushcraft

A PRACTICAL OUTDOOR SKILLS GUIDE

NAVIGATION AND TRACKING

FIND YOUR WAY | READ THE SIGNS | EXPLORE | LEARN | BE PREPARED

1. Introduction to Navigation and Tracking

Navigation and tracking are two of the oldest outdoor skills. Long before mobile phones, GPS devices and digital maps, people used the landscape, the stars, the sun and signs left by animals to find their way.

For a bushcraft Scout, learning these skills opens up a completely different way of experiencing the outdoors.





Navigation

teaches us how to understand where we are, where we want to go and how to reach our destination safely.

Tracking

teaches us to observe the environment carefully, recognise footprints and other signs, and understand what may have happened in the woodland.

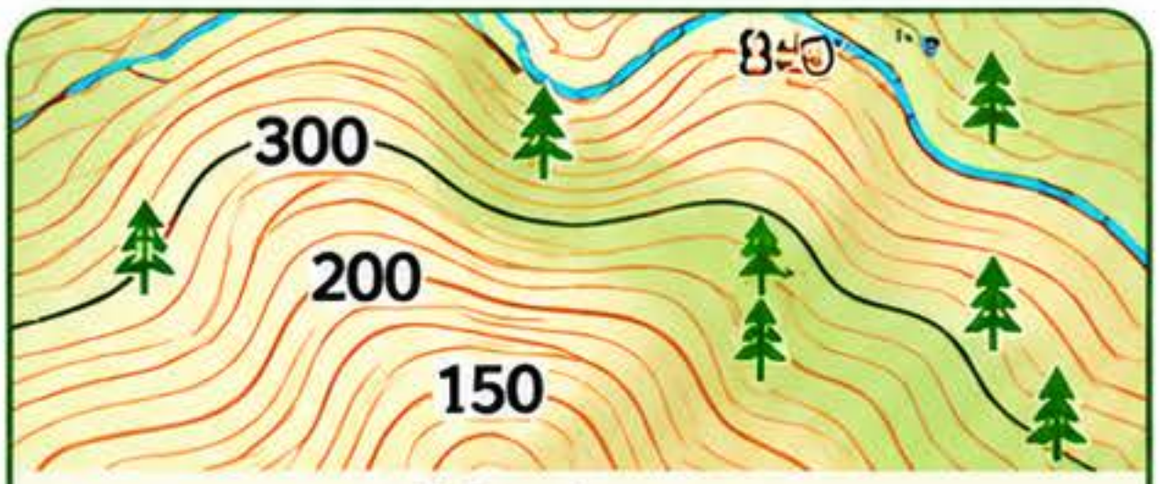
Together, these skills help develop:

- Observation and concentration.
- Problem-solving and decision-making.
- Map-reading and direction-finding.
- Woodland awareness.
- Teamwork and communication.
- Confidence and independence outdoors.

2. Understanding Maps

A map is a representation of the landscape viewed from above. It uses symbols, colours, contour lines and measurements to show features such as hills, rivers, paths, buildings and woodland.

2.1 Types of Maps



Topographical maps
Show the shape of the land, including contour lines, hills, valleys, rivers and woodland.



Ordnance Survey maps
Widely used in the UK for walking, hiking and outdoor navigation.



Street maps
Show roads, streets, buildings and settlements.



Trail maps
Highlight walking routes, footpaths and outdoor recreation areas.

2.2 Common Map Symbols (OS)

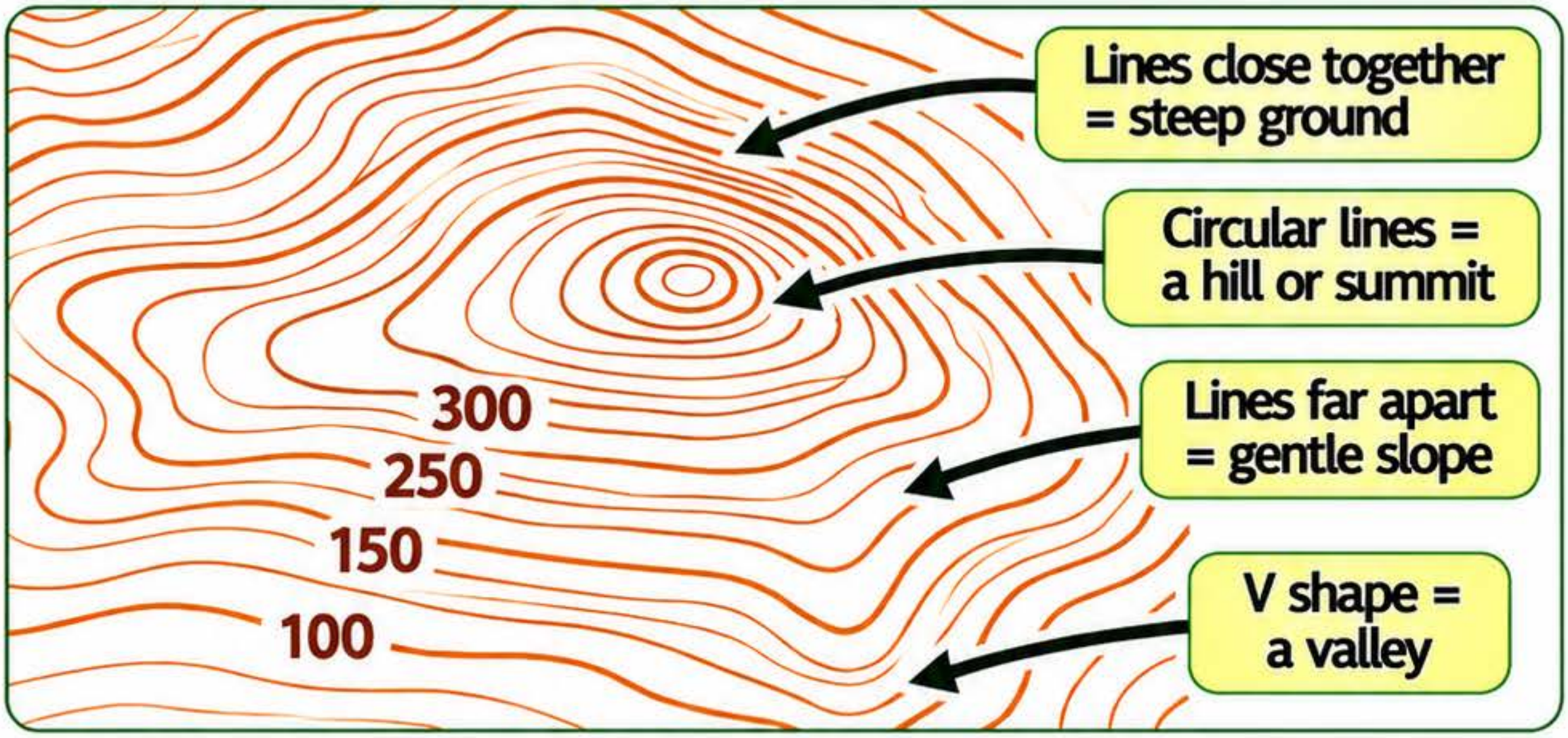
	Rivers, lakes and water features (blue)
	Woodland and vegetation (green)
	Contour lines and land height (brown)
	Buildings and other features (black)
	Main roads and selected routes (red/orange)
	Paths and tracks (dashed)

Scout Bushcraft Tip

Always check the map legend because symbols can vary between map types and editions.

Understanding Contour Lines

Contour lines show the height and shape of the land. Each contour line joins points of equal height above sea level.



Orientating a Map

Orientating a map means turning it so that the features shown on the map match the direction of the real landscape.

1. Place the map on a flat surface.
2. Place the compass on the map.
3. Turn the map until north on the map aligns with north on the compass.
4. Look around and identify visible features.
5. Check that the landscape matches the map.



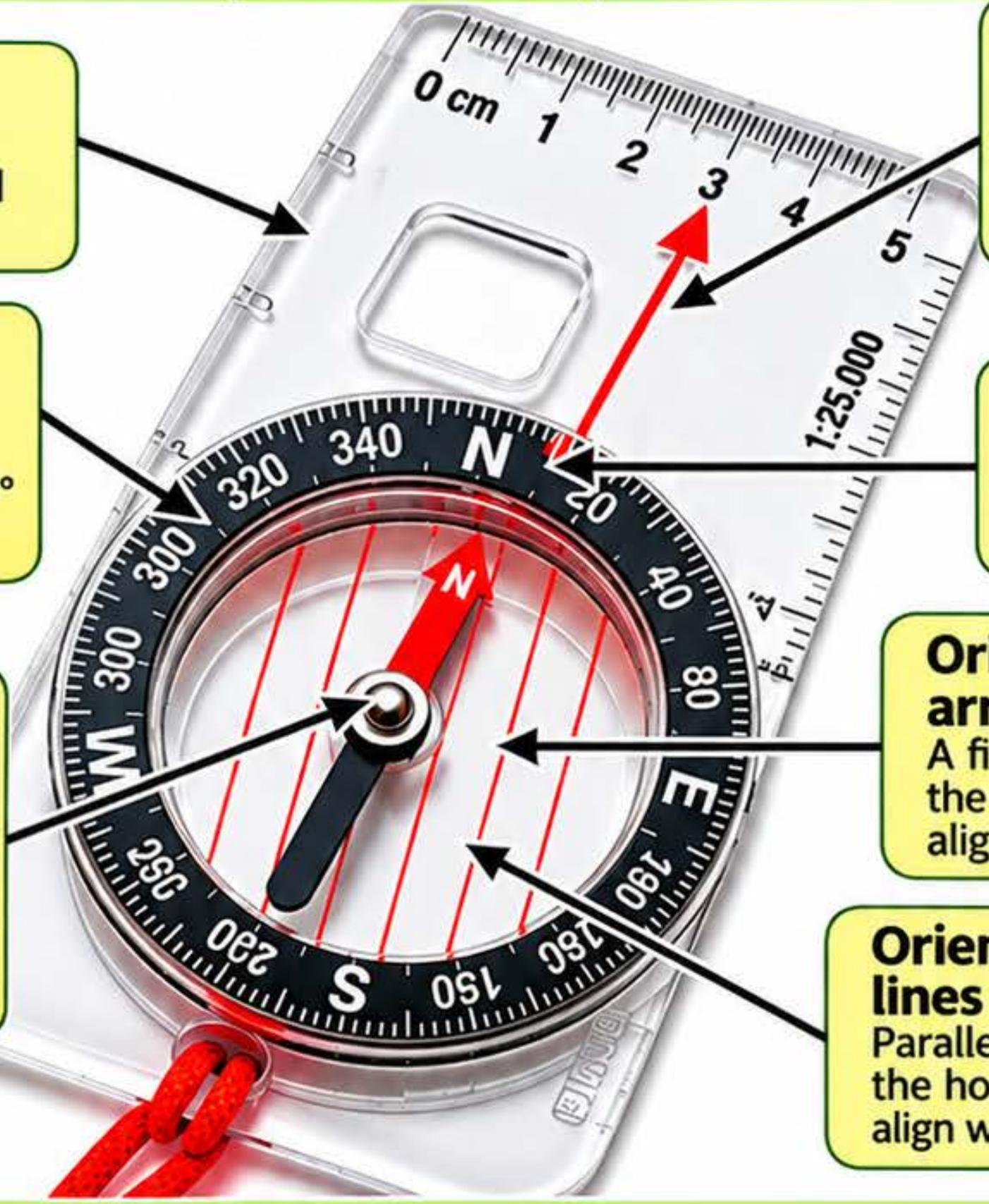
Scout Bushcraft Tip

Find a recognisable feature such as a hill, path junction or church tower. Matching real features to the map helps confirm your position.

Using a Compass

A compass is a simple but extremely useful navigation tool. It uses a magnetised needle to indicate magnetic north. A baseplate compass is particularly useful for map navigation.

Parts of a Baseplate Compass



Baseplate
Clear, flat base with a ruler and map scales.

Direction of travel arrow
Shows the direction you need to travel.

Compass housing
Rotating dial marked 0° – 360° (degrees).

Index line
The fixed mark used to read the bearing.

Magnetic needle
Magnetised needle that points towards magnetic north (red end).

Orienting arrow
A fixed arrow inside the housing, used to align with north.

Orienting lines
Parallel lines inside the housing, used to align with map grid lines.

Compass Directions

The four main compass directions:

North	000° or 360°
East	090°
South	180°
West	270°

The four intermediate directions:

North-east	045°
South-east	135°
South-west	225°
North-west	315°

A compass is marked in degrees from 000° to 360°.

Map and Compass Navigation

Using a map and compass together allows you to navigate accurately, even when paths and landmarks are difficult to recognise.

Walking on a Bearing

1. Set your compass to the required bearing.
2. Hold it flat in front of you.
3. Turn until the magnetic needle aligns with the orienting arrow.
4. Look along the direction of travel arrow.
5. Choose a recognisable feature in that direction.
6. Walk towards that feature.
7. Stop and repeat the process.



Handrails

A handrail is a feature in the landscape that you can follow.



Streams



Woodland edge



Paths

Attack Points

An attack point is an easily recognisable feature close to your destination, such as a path junction or stream crossing.



Aiming Off

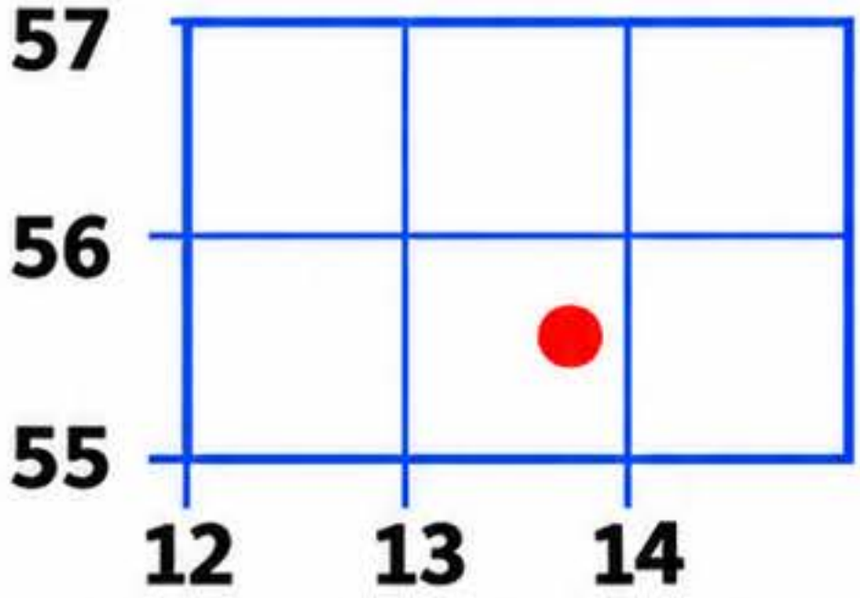
Aiming off means deliberately taking a bearing that leads to one side of your destination. It helps prevent you from passing your destination without noticing.



Grid References and Measuring Distance

Grid references help you find a specific location on a map.

Understanding Grid References



Remember the rule:

Along the corridor, then up the stairs.

Read the easting (left to right) first, then the northing (bottom to top).

- The easting (grid reference) is read first (left to right).
- The northing (grid reference) is read second (bottom to top).
- A six-figure grid reference is more accurate, e.g. **137562**.
- A four-figure grid reference is less precise, e.g. **1375**.

Measuring Distance

Maps use a scale to measure real distances.

- **1:25,000** = 1 cm on the map represents 250 metres on the ground.
- **1:50,000** = 1 cm on the map represents 500 metres on the ground.
- **1:100,000** = 1 cm on the map represents 1 kilometre (1,000 metres).

Pacing

Pacing is a useful way of estimating distance while walking.

1. Find a measured course, such as 100 metres.
2. Walk it naturally.
3. Count only the steps with the same foot leading (e.g. right foot only).
4. Repeat several times.
5. Calculate your average.



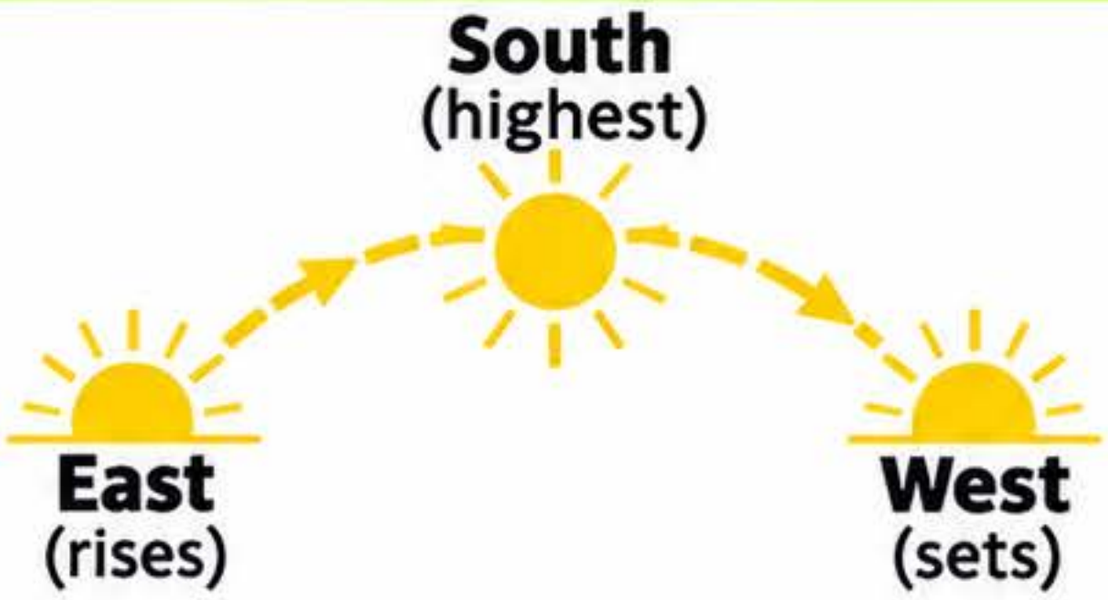
Scout Bushcraft Tip

Practise pacing on different types of ground so you understand how your stride changes.

Natural Navigation

Natural navigation uses the environment to help identify direction and understand the passage of time. These methods are useful additions to map and compass skills, but they should not replace reliable navigation equipment.

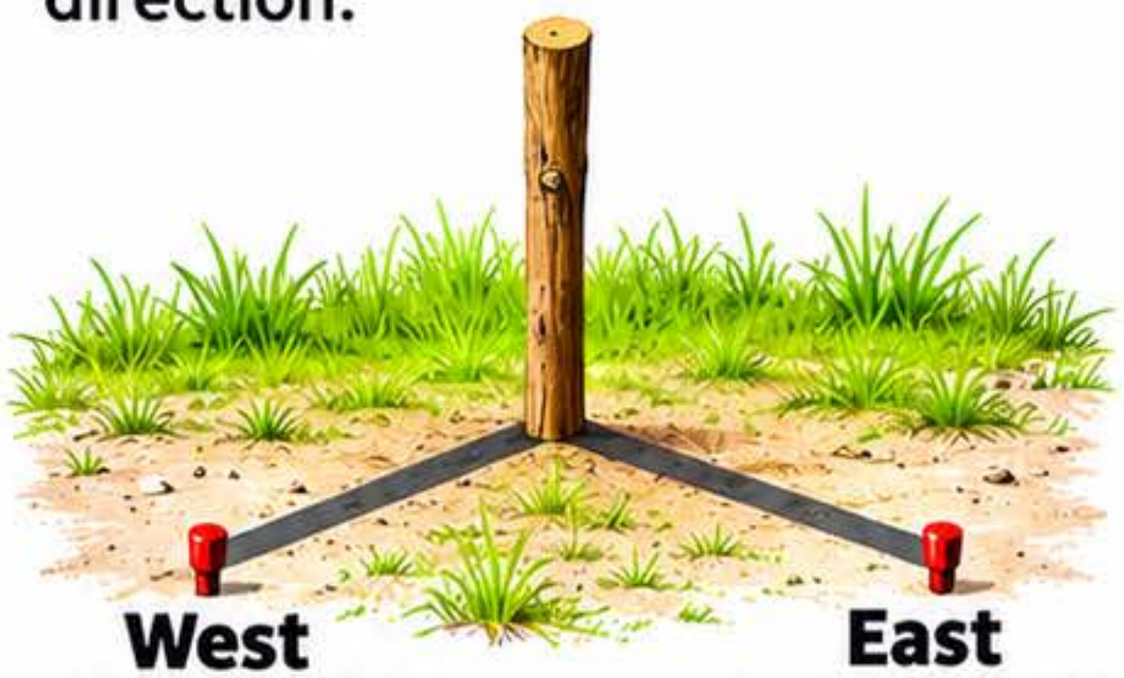
Using the Sun



- The sun generally rises towards the east.
- It reaches its highest point towards the south.
- It sets towards the west.

Using Shadows

A simple shadow-stick method can help estimate an east-west direction.



Using the Stars



- Find the Plough (Big Dipper).
- Identify the two stars at the outer edge of its bowl.
- Follow a line about five times the distance between them to Polaris.
- Polaris is close to true north.

Observing the Landscape

The landscape provides clues about your surroundings. Look for:

- The direction of streams and rivers.
- Hills and ridgelines.
- Woodland boundaries.
- Buildings and landmarks.
- Established paths and tracks.



Do not rely on myths such as moss always growing on the north side of trees. Moss growth depends on moisture, shade, bark and local conditions.

Identifying British Wildlife Tracks

The British countryside is home to many animals, each leaving different signs. Here are some common tracks to look for.





Deer

Two pointed hoof impressions. A narrow, heart-shaped appearance.





Fox

Four toes and a central pad. Small claw marks. A neat, oval shape.





Badger

Five toes, long claw marks and a broad footprint with a distinctive heel pad.





Rabbit

Often in groups. Two larger oval hind impressions and two smaller front-foot impressions.





Squirrel

Small, pointed groups of footprints. Often with claw marks.





Birds

Usually three forward-pointing toes, often with a rear facing toe. The size and shape vary depending on the species.

Tracking Exercises and Games

Practical activities help Scouts develop their observation and tracking skills.



Activity 1 – The Track Detective

- Find several animal tracks.
- Photograph or sketch each one.
- Measure the size, count the toes and look for claw marks.
- Compare with a wildlife guide.



Activity 2 – The Observation Trail

- An instructor creates a short trail using small clues.
- Try to identify signs like tracks, nests or feeding marks.
- Record everything you observe.
- Discuss what the clues might mean.



Activity 3 – Natural Navigation Challenge

- Set out a route, ideally for a short walk.
- Use natural signs to navigate and keep on course.
- Provide a series of bearings or checkpoints.
- Try to reach the finish without using a map or GPS.



Activity 4 – Woodland Observation

- Work in pairs or small groups to quietly observe woodland wildlife.
- Identify clues such as tracks, droppings, feathers or feeding signs.
- Record your findings and share them with the group.
- Discuss how the signs show what the animal was doing.



Activity 5 – Pace Counting Challenge

- Set up a measured 100-metre course.
- Walk the route and count your steps (double pace).
- Repeat the test two or three times.
- Work out your average and use it to estimate distances on a future walk.

Practical Skills Challenge

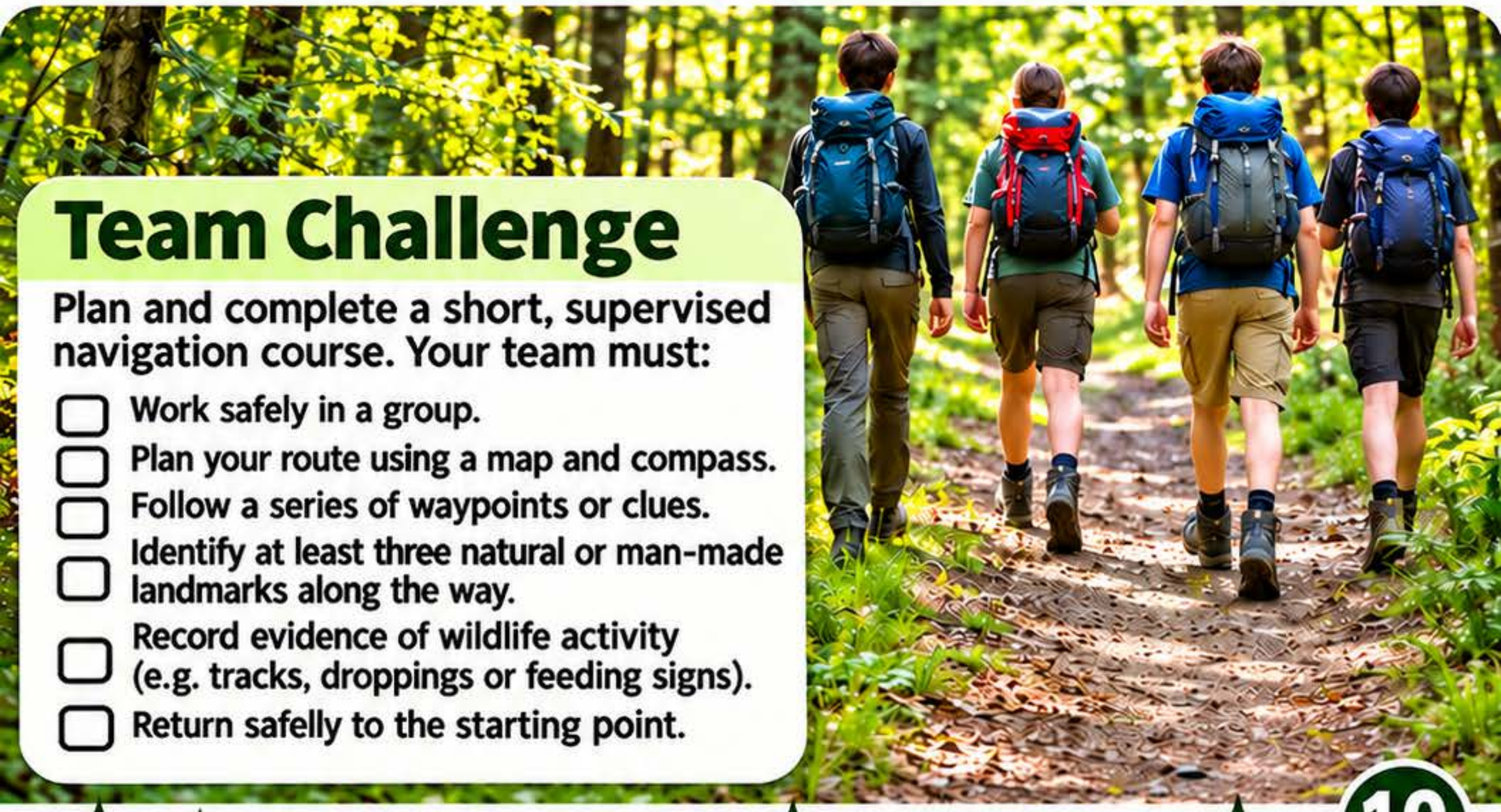
Use these challenges to test your navigation and tracking skills.

Navigation Skills

- [ ] Identify the four main compass directions.
- [ ] Use a map and compass to estimate and walk a short route.
- [ ] Identify common map symbols.
- [ ] Understand contour lines.
- [ ] Estimate a map scale in practice (e.g. how far a route might be).
- [ ] Take a compass bearing.
- [ ] Follow a short bearing.
- [ ] Identify a four-figure grid reference.
- [ ] Identify a six-figure grid reference.
- [ ] Measure a distance on a map.
- [ ] Orientate (set) a map to north.
- [ ] Identify natural navigation clues (e.g. sun, shadows or landmarks).

Tracking Skills

- [ ] Follow and record a track.
- [ ] Identify features of a footprint (e.g. size, number of toes, heel pad).
- [ ] Recognise a common British wildlife track.
- [ ] Identify signs of feeding (e.g. gnawed wood, nibbled leaves).
- [ ] Recognise and record animal droppings.
- [ ] Explain why tracks can be difficult to find (e.g. weather, ground type).
- [ ] Follow a short observation trail using natural clues.
- [ ] Explain how to track responsibly (without disturbing wildlife).
- [ ] Describe why wildlife should not be disturbed.



Team Challenge

Plan and complete a short, supervised navigation course. Your team must:

- [ ] Work safely in a group.
- [ ] Plan your route using a map and compass.
- [ ] Follow a series of waypoints or clues.
- [ ] Identify at least three natural or man-made landmarks along the way.
- [ ] Record evidence of wildlife activity (e.g. tracks, droppings or feeding signs).
- [ ] Return safelly to the starting point.

Scouts Bushcraft

Bushcraft Skills, Resources and Practical Guides for Scouts

The **Scouts Bushcraft** book series provides practical, easy-to-follow guides to help Scouts, Explorer Scouts, Scout Leaders and other youth groups learn outdoor skills, develop confidence, work as a team and build a greater understanding and respect for the natural world.

In This Series

- Expert, practical guidance
- Step-by-step activities
- Useful tips and techniques
- Printable worksheets and resources
- Ideas for meetings, activity days and camps
- Supports safe, responsible and sustainable use of the outdoors



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