



EduTrend Contents

W4C · ADVENTURE AND OUTDOOR SPORTS · MIDDLE SCHOOL

Orienteering with Compass

Use scale, contours and bearings to navigate

Ages 11–14

Level: Intermediate

60 minutes

Pairs · up to 30

Activity 03

Inside: activity at a glance · step-by-step session plan · facilitator notes · 3 student worksheets · assessment checklist

ACTIVITY 03 · AT A GLANCE

Orienteering with Compass

Students measure distances using map scale, interpret contour lines, and learn to take a bearing with a baseplate compass. In pairs they complete a timed orienteering course, choosing routes, pacing distances and using bearings to find control points.

Learning outcomes

By the end of the session students can:

- calculate distances using map scale;
- interpret contour lines and relief;
- take and follow a compass bearing;
- plan and evaluate route choices.

KEY WORDS

scale · contour · bearing · baseplate compass · magnetic north · control point · pacing · route choice

CURRICULUM LINKS

Geography: map skills and relief.
Maths: scale, ratio and angles. PE: orienteering.

1**PREPARE**

Kit, plan, safety

2**LEARN**

Skill or idea

3**EXPLORE**

Try it outdoors

4**CHALLENGE**

Solve a task

5**REFLECT**

What did we learn?

6**RESPECT**

Leave no trace

Equipment (per pair)

- Orienteering map of the site at a stated scale
- Baseplate compass
- Control markers and punches or codes
- Stopwatch
- Worksheets 1, 2 and 3

Before the session

- Prepare or obtain a site map with contours if available.
- Place 8–12 controls.
- Check the course for hazards and boundaries.
- Practise taking bearings yourself.

SAFETY

Agree boundaries, a finish time and a whistle signal. Pairs stay together. Know the site for hazards. Carry a map of the site.

ACTIVITY 03 · SESSION PLAN

Step by step

Teach pacing on a measured 100 metres first: knowing distance prevents most navigation errors.

Time	What happens	Say or ask
0–10 min Hook	Show an orienteering map and control flag.	<i>"How do orienteers find controls fast?"</i>
10–20 min Scale and contours	Measure distances; interpret contours.	<i>"Is this slope steep or gentle?"</i>
20–30 min Bearings	Take a bearing from the map and follow it to a target.	<i>"Which way does the direction arrow point?"</i>
30–50 min Course	Pairs complete a timed course.	<i>"Why did you choose that route?"</i>
50–60 min Review	Compare route choices and times.	<i>"Where did you lose time?"</i>

CHALLENGE CARD (print or copy onto the board)

Complete an orienteering course in pairs, using at least two compass bearings and pacing, and explain one route choice.

ACTIVITY 03 · FACILITATOR NOTES

The outdoor know-how in brief

Map scale shows how map distance relates to real distance: at 1:10 000, 1 centimetre represents 100 metres. Contour lines join points of equal height; lines close together show steep ground. Orienteering maps commonly use scales such as 1:10 000 or 1:15 000.

To take a bearing with a baseplate compass, place the compass edge between two points, turn the housing until its lines point to map north, then turn yourself until the red needle sits in the orienting arrow and follow the direction-of-travel arrow. Orienteering control flags are orange and white.

Common ideas to listen for

- “The compass needle points where you should go.” It points to magnetic north; the arrow shows your direction.
- “Straight lines are always fastest.” Paths around steep ground can be quicker.
- “Contours are paths.” They show height, not routes.

Adapting the activity

Support

Use a map without contours and bearings marked in advance.

Stretch

Plan a score event with controls worth different points and a time limit.

WORKSHEET 1

Scale and contours

Name: _____

Class: _____ Date: _____

Practise map skills.

Distances

From	To	Map cm	Real m
Start			
Control 1			
Control 2			
Control 3			

WORKSHEET 2

Bearings

Record bearings.

Bearings

Leg	Bearing (degrees)	Distance (m)	Paces
1			
2			
3			

WORKSHEET 3

Route review

Evaluate your course.

Our time and controls found

Best route choice and why

Where we lost time

FOR THE TEACHER

Assessment checklist

Use during the session. One sheet covers up to eight students; copy as needed.

Student	Uses scale and contours	Follows bearings	Evaluates route choice

Suggested codes: W = working towards · E = expected · G = greater depth

ABOUT THIS ACTIVITY

Orienteering with Compass is a sample activity from the EduTrend Contents W4C Adventure and Outdoor Sports programme (middle school, level: intermediate). Every activity in the programme follows the same format: a practical challenge, a clear session plan, facilitator notes and ready-to-print worksheets, so that teachers, club leaders and parents can run it without extra preparation.

Full 15-, 20- and 32-week programmes are available from EduStore at edutrend.org.

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