

## Grade 10

## Lesson 4

### Lesson plan

Lesson theme	Introduction to orienteering – theory	Grade	10
Duration	50 minutes	Date/week	
Context			
<ul style="list-style-type: none"><li>• Recreation and physical wellbeing</li><li>• Movement focus: Sports and games.</li></ul>			
Linking with previous lesson		Linking with next lesson	
<ul style="list-style-type: none"><li>• Learners develop sports skills and improve their fitness levels.</li></ul>		<ul style="list-style-type: none"><li>• Learners are introduced to and develop skills for orienteering.</li></ul>	
Core knowledge			
<ul style="list-style-type: none"><li>• Orienteering</li><li>• Topographical maps: calculating distance using a scale on a map, compass direction and bearing (heading), and contour intervals and lines.</li></ul>			
Learning activities and assessment			
<ul style="list-style-type: none"><li>• Learners are given background information on orienteering and learn about orienteering maps. They then go on to make their own orienteering maps.</li></ul>			
Forms of assessment		Resources	
<ul style="list-style-type: none"><li>• Peer assessment of self-made maps</li><li>• Checklist</li><li>• See Learner assessment in the Checklist for evaluation at the end of the lesson.</li></ul>		<ul style="list-style-type: none"><li>• Various types of topographical maps</li><li>• International Orienteering Federation (IOF) standard orienteering maps</li><li>• Visual aids to illustrate contours and contour intervals, if available</li><li>• Chalkboard, chalk</li><li>• Blank A4 paper</li><li>• Pencils, rulers, writing equipment</li><li>• Teacher-generated legend.</li></ul>	
Expanded opportunities		Teacher reflection	
<ul style="list-style-type: none"><li>• Encourage learners to learn more about the South African Orienteering Federation and to participate in orienteering meetings and competitions.</li></ul>		<ul style="list-style-type: none"><li>• The activities show learners other fun ways to get active outdoors and teach them important skills for orienteering.</li></ul>	

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### Lesson 4: Introduction to orienteering – theory (50 minutes)

#### 1 Outcomes

By the end of the lesson learners should be able to:

- Define the sport of orienteering
- Explain the benefits of learning orienteering
- Recognise orienteering's military beginnings
- Identify the parts of and symbols on an orienteering map
- Demonstrate how to interpret map symbols to identify terrain features
- Identify types of map features.

#### 2 Teacher's corner

##### Setting up

- Familiarise yourself with the definition of orienteering (see 'Additional information for teachers' on page 27)
- Make sure that learners are familiar with topographical maps, their legend, calculating distance using a scale on a map, as well as compass direction and bearing (heading), and contour intervals and lines. These skills form part of the Revised National Curriculum Statement for Social Sciences in the GET phase (Grades 7 to 9).

##### For lesson 4 you'll need the following equipment

- Various types of topographical maps (your school's Social Sciences department will have topographical maps)
- International Orienteering Federation (IOF) standard orienteering maps (one per learner)
- Visual aids to illustrate contours and contour intervals, if available
- Chalkboard, chalk
- Blank A4 paper
- Pencils, rulers, writing equipment
- Teacher-generated legend for the features existent in the learning area that will be mapped by the learners.

#### 3 Activities

##### Activity 1: Instruction – definition and history of orienteering (10 minutes)

Provide learners with the definition and history of orienteering as outlined in the section 'Additional information for teachers' (page 27) in this lesson plan.

##### Activity 2: Instruction on the orienteering map (10 minutes)

1. Hand out orienteering maps to learners.
2. Explain how a topographical map shows the shape of the terrain and detailed features that are not commonly found on other maps. If possible, have different types of topographical maps for comparison.



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3. Scale – have learners find the ratio scale on the orienteering map. Explain that scale shows the size relationship of the map to earth. Point out the bar scale and that it is used in conjunction with the compass ruler to measure distance to be travelled.
4. Contour interval – have learners find the contour interval on the orienteering map. Explain that the contour interval shows the change in height between contour lines. If learners are not familiar with contour lines, explain that if the contour lines are close together then the terrain is steep, and if they are spread far apart then the terrain has a gradual or flat slope.
5. Key/legend – point out that the orienteering map key/legend shows which symbols are used on the map.
6. Magnetic north lines – point out the parallel lines with small arrows pointing toward magnetic north on the map. These lines are spaced on the map every 500 metres on a 1:15,000 map.
7. Note and explain the colours on the orienteering map:
  - Blue – water features
  - Black – rock features and man-made features
  - White – normal, open woods
  - Green – thick vegetation (shades and patterns indicate type)
  - Yellow – non-wooded land (shades and patterns indicate type)
  - Brown – natural non-rock features and contour lines.

### Activity 3: Instruction – map interpretation (10 minutes)

#### What is on the map and what is not

A topographer is a person that maps surface and area features. Explain to learners that each topographer has their own criteria for what should be added to an orienteering map. For example, a small boulder or ditch may not be mapped, while a larger one would be mapped. The 'busier' the terrain, the less likely it is that smaller features will be on the map. New changes, such as fresh rootstocks and new trails, may not be on the map. Water features (lakes, seasonal streams etc) may change size or disappear entirely at certain times of the year.

#### Feature identification – Types of features on an O-map:

- Point features – distinct and usually small features such as boulders, rootstocks and pits
- Linear features – long features such as trails, fences and streams that can be followed
- Contour features – features defined on the map by contour lines such as valleys, spurs, hilltops, ridges and gullies.

### Activity 4: Make your own map (15 minutes)

Learners are required to draw a simple map of the learning area on the sheet of blank paper provided. They must visualise scale and use the map symbols (legend / key) provided. The task has to be completed by reflecting as much detail on the map as possible in 15 minutes.

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### 4 Wrap-up (5 minutes)

Carry out peer assessment on the learners' completed maps. Ask learners to mark on their peer's map whether the map is excellent, proficient, adequate or limited. Remind all learners to hand in their completed and peer-assessed maps.

### 5 Assessment

- Peer assessment of the learners maps can be used to help inform teacher assessment
- Complete the 'Learner assessment' according to the mark allocation in the table below ('Checklist for evaluation')
- Mark of participation in lesson on the class list and complete the 'Checklist for evaluation' below.

#### Lesson 4: Checklist for evaluation

Activity	Question	Yes	No
Definition and history of orienteering	<ul style="list-style-type: none"> <li>• Are learners able to define the sport of orienteering?</li> <li>• Are they able to explain the benefits of learning orienteering?</li> <li>• Are they able to recognise orienteering's military beginnings?</li> </ul>		
How to use an orienteering map	<ul style="list-style-type: none"> <li>• Do learners know how to calculate distance using a scale on a map?</li> <li>• Do they understand what contour intervals and lines are?</li> <li>• Do they know how to use the key/legend on the map?</li> <li>• Can they identify the magnetic north lines on the map?</li> <li>• Do they understand what the colours on the map stand for?</li> </ul>		
Map interpretation	<ul style="list-style-type: none"> <li>• Can learners identify the different types of features on an orienteering map?</li> </ul>		
Learners make their own maps	<ul style="list-style-type: none"> <li>• Can learners draw their own simple maps of the learning area, visualising scale and using the map symbols (key/legend) provided?</li> </ul>		
Teacher reflection	<ul style="list-style-type: none"> <li>• Do you think the learners enjoyed learning new skills for orienteering and getting active outdoors?</li> </ul>		
	<ul style="list-style-type: none"> <li>• If you had to repeat the lesson, what improvements would you make to it?</li> </ul>		
Learner assessment	<ul style="list-style-type: none"> <li>• Learners can complete all the tasks above without any mistakes (8 to 10 marks)</li> <li>• Learners can complete all the tasks above with a few mistakes (5 to 7 marks)</li> <li>• Learners can complete all the tasks above with a lot of mistakes (2 to 4 marks)</li> <li>• Learners cannot complete any of the tasks above (0 to 1 marks)</li> </ul>		

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### 6 Additional information for teachers

#### Definition of orienteering

Orienteering is a challenging outdoor activity that involves using a detailed topographical map and a compass to find your way through a terrain and identify a series of features indicated on a map. It is a competitive sport that originated as a military exercise in Scandinavia in the early 1900s.

Orienteering increases the love of the outdoors and promotes environmental awareness. It fits into the academic goals of curriculum, develops critical thinking skills and increases physical fitness. All ability levels can compete in local, regional and national events.

#### Further information on orienteering

For further information on learning orienteering and on organised orienteering meetings and competitions, visit [www.saof.org.za](http://www.saof.org.za). This website provides details of the South African Orienteering Federation and is an excellent resource for teachers.