



Australian Government

Department of Education, Employment and Workplace Relations

RIIG005A Read and interpret map

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This unit specifies the skill and knowledge to read and interpret maps relevant to work activities in the resources and infrastructure industries.

The unit includes identification of locations using maps, compasses and other equipment, identification of types of maps and their functions, the recognition of commonly used symbols and abbreviations, the identification of key features and specifications on a map, and the navigating of a route using maps, compass and other equipment.

Application of the Unit

Not applicable.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

The required outcomes described in this Unit of Competency contain applicable facets of employability skills. The Employability Skills Qualification Summary for the qualification in which this Unit of Competency is packaged will assist in identifying employability skill requirements.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a Unit of Competency

Performance Criteria describe the required performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the Required Skills and Knowledge and/or the Range Statement. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

Elements and Performance Criteria

Element	Performance Criteria
1 Prepare for navigation	1.1 Applicable safety and organisational requirements relevant to navigation are identified and complied with. 1.2 Information is gathered and relevant factors identified and checked with appropriate personnel. 1.3 Suitable maps, equipment and navigation aids are selected and checked for accuracy, currency and operational effectiveness in accordance with manufacturers' recommendations. 1.4 Faults or errors in maps and equipment are detected and corrected. 1.5 Communication with others is established and maintained in accordance with OHS requirements.
2 Plan the route	2.1 Traverse route to destination is selected using information from map or plan and field observations. 2.2 Maps are examined to identify relevant symbols and information and navigation data. 2.3 Current position in the field is identified on map or plan in accordance with organisational procedures. 2.4 Current position in the field is located using landmarks and key geographical features. 2.5 Required destination is identified on map or plan in accordance with organisational procedures. 2.6 Hazards and potential hazards in traversing from location to destination are recognised and interpreted from map or plan, field observations, and local knowledge. 2.7 Distance to required destination is estimated using map scale and selected traverse route.

3 Conduct navigation

- 3.1 Navigation is undertaken in accordance with planned route and schedule.
- 3.2 Maps are correctly orientated to **surroundings** in accordance with planned route.
- 3.3 Equipment and navigation aids are used in accordance with manufacturers' recommendations
- 3.4 Alternative routes are navigated to bypass **obstacles** and improve efficiency of route or course

Required Skills and Knowledge

This describes the essential skills and knowledge required for this unit

Required Skills

Specific skills are required to achieve the performance criteria of this unit, particularly for their application in the variety of circumstances in which this unit may be applied. Skills include

Speaking clearly and directly, listening carefully to instructions and information

Accessing, interpreting and applying technical and operational information including work instructions, quality assurance procedures, manufacturers' instructions, material safety data sheets and equipment instructions

Applying teamwork to a range of situations, particularly in a safety context

Solving problems such as recognising clear discrepancies between available maps or other data and the actual site and taking action to correct these

Showing initiative in adapting to changing work conditions or contexts particularly when working across a variety of work areas

Managing time, particularly in organising priorities and planning work

Taking responsibility for self organisation of work priorities

Showing a willingness to learn and to use a range of mediums to learn

Applying mathematical skills, including basic angles and geometry for compass bearings, estimation and measurement.

Required Knowledge

Specific knowledge is required to achieve the performance criteria of this unit, particularly for their application in the variety of circumstances in which this unit may be applied.

Assessment requires evidence of the ability to identify and explain the purpose of:

types of maps, charts and scales and their uses

Representation of topographic features on maps and plans

Common scales used on maps and plans

Features and use of a compass and factors that affect compass accuracy

Advantages and disadvantages of different map and chart types and sources of error

Techniques for estimating distance travelled.

Evidence Guide

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

Critical aspects of assessment and evidence required to demonstrate competency in this unit

The evidence required to demonstrate competency in this unit must be relevant to reading and interpreting maps and satisfy all of the requirements of the Performance Criteria, Required Skills and Knowledge and the Range Statement of this unit and include demonstration of:

working with others to plan, prepare and execute the tasks

consistent successful achievement of the requirement outcomes

Context of and specific resources for assessment

This unit should be assessed in the context of the work environment wherever possible. Where this is not possible, assessment may occur in a simulated environment. Evidence for assessment is best gathered using the outcomes of products and processes of the workplace context

The assessment environment should not disadvantage the participant. For example, language, literacy and numeracy demands of assessment should not be greater than those required on the job

Assessment of this competency requires typical resources normally used in the work environment. Selection and use of resources for particular work sites may differ due to site circumstances

Where applicable, physical resources should include equipment modified for people with disabilities

Access must be provided to appropriate learning and/or assessment support when required

Methods of assessment

This unit maybe assessed in a holistic way with other units of competency

Appropriate methods of assessment for this unit will usually include:

workplace observation of processes and procedures

oral and/or written questioning on required knowledge

testimony from supervisors, colleagues, clients and/or other appropriate persons

simulation and/or scenario analysis

Where performance is not directly observed and/or is required to be demonstrated over a period of time and/or in a number of locations, any evidence should be authenticated by colleagues, supervisors, clients or other appropriate persons

Questioning should be undertaken in a manner appropriate to the language and literacy levels of the candidate and to the requirements of the Unit of Competency

Assessment should also reinforce the integration of the knowledge and skills aspect of this unit

Questioning should be undertaken in such a manner as is appropriate to the oracy, language and literacy levels of the assessee, any cultural issues that may affect responses to the questions, reflecting the requirements of the competency and the work being performed

Range Statement

RANGE STATEMENT

The Range Statement relates to the Unit of Competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording in the Performance Criteria is detailed below.

Information may include:	Details of local inhabitants, type of terrain or features of the route, access and exit routes, natural protection or shelter, land management and legislative requirements, guide books
Maps may include:	Cadastral and topographic maps, charts, guide books, aerial photographs, sketches and cave maps, and diagrams
Equipment may include:	Compass, track and survey markers, beacons, personal protective equipment and clothing, GPS units
Navigation aids may include:	Track and creek junctions and crossings, survey markers, beacons, track markers, cairns, paths, signs, arrows, compass and man-made objects or features
Symbols and information may include:	Grid lines and numbers, contour lines, magnetic variation, scale, map legend, topographic features, markers and beacons, water depth
Navigation data may include:	Grid reference points, grid and magnetic bearings, distances, estimated travelling times, height gain/loss, gradient, identifiable features and exit routes
Surroundings may include:	Ground/terrain, bodies of water, beacons and markers, natural formations, landmarks and man-made features
Obstacles may include:	Thick vegetation, drops and climbs, marshes and bogs, fog, rivers, lakes and dams, tides and hazards

Unit Sector(s)

Not applicable.