

## DEMONSTRATE NUMERACY SKILLS

UNIT CODE: CON/OS/MA/BC/02/4/A

### UNIT DESCRIPTION

This unit covers the competencies required to demonstrate numeracy skills. It involves identifying and using whole numbers and simple fractions, decimals and percentages for work, identifying, measuring and estimating familiar quantities for work, reading and using familiar maps, plans and diagrams for work, identifying and describing common 2D and some 3D shapes for work, constructing simple tables and graphs for work using familiar data and identifying and interpreting information in familiar tables, graphs and charts for work

### ELEMENTS AND PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
These describe the key outcomes which make up workplace function.	These are assessable statements which specify the required level of performance for each of the elements. <i><b>Bold and italicized terms are elaborated in the Range.</b></i>
1. Identify and use whole numbers and simple fractions, decimals and percentages for work	1.1 Simple fractions, decimals and percentages identified and interpreted as per standard operating procedures. 1.2 Understanding of place value by organising numbers from smallest to largest demonstrated as SOPs 1.3 Required numerical information located and decision made on appropriate method to solve a problem as per SOPs 1.4 Limited range of calculations performed using the four operations using SOPs 1.5 Links between operations described as per SOPs 1.6 Estimations made to check reasonableness of results of problem-solving process as SOPs 1.7 Numerical information recorded, and the result of the task communicated using informal and some formal language and symbolism as per workplace procedures

<p>2. Identify, measure and estimate familiar quantities for work</p>	<p>2.1 Measurement information in workplace tasks and texts identified and interpreted as per workplace procedures.</p> <p>2.2 Familiar units of measurement needed for tasks is identified as per measurements manuals/charts</p> <p>2.3 Familiar and simple amounts estimated as per workplace procedures.</p> <p>2.4 Appropriate measuring equipment selected as per SOPs</p> <p>2.5 <b>Simple measuring equipment</b> graduated in familiar units to measure relevant quantities is used as per graduation manuals.</p> <p>2.6 Calculation done using familiar units of measurement as per SOPs</p> <p>2.7 Measurements and results checked against estimates as per job specifications.</p> <p>2.8 Results are recorded or reported as per workplace procedures</p> <p>2.9 Results relevant to the workplace task are communicated using informal and some formal mathematical and general language as per workplace procedures.</p>
<p>3. Read and use familiar maps, plans and diagrams for work</p>	<p>3.1 Items and places are in familiar maps, plans and diagrams as per SOPs</p> <p>3.2 Common symbols and keys recognised in familiar maps, plans and diagrams as per SOPs</p> <p>3.3 Understanding of direction and location demonstrated by describing the location of objects, or route to familiar places as per SOPs</p> <p>3.4 Instructions to locate familiar objects or places are given and followed as per SOPs</p> <p>3.5 Informal and some formal oral mathematical language and symbols are used as per SOPs</p>

<p>4. Identify and describe common 2D and some 3D shapes for work</p>	<p>4.1 <i>Common 2D shapes and some common 3D shapes</i> in familiar situations are identified and named as per job requirements</p> <p>4.2 Common 2D shapes and designs are compared and classified as per SOPs</p> <p>4.3 Informal and some formal language used to describe common two-dimensional shapes and some common three-dimensional shapes in accordance with workplace procedures.</p> <p>4.4 Simple items used to draw or construct common 2D shapes as per workplace procedures.</p> <p>4.5 Common 3D shapes matched to their 2D sketches or nets as per SOPs</p>
<p>5. Construct simple tables and graphs for work using familiar data</p>	<p>5.1 Common types of graphs are identified and named as per SOPs</p> <p>5.2 Familiar data to be collected is determined in accordance with job specifications.</p> <p>5.3 A method to collect data is selected in accordance with workplace procedures.</p> <p>5.4 A small amount of simple familiar data is collected as per workplace procedures</p> <p>5.5 One or two variables determined from the data collected as per SOPs.</p> <p>5.6 Data ordered and collated as per standard operating procedures.</p> <p>5.7 A table is constructed and data entered as per SOPs</p> <p>5.8 Graphs are constructed using data from table as per job specifications</p> <p>5.9 Results are promptly checked as per workplace procedures</p> <p>5.10 Graph information related to work is reported or discussed using informal and some formal mathematical and general language as per workplace procedures</p>

<p>6. Identify and interpret information in familiar tables, graphs and charts for work</p>	<p>6.1 Simple tables are identified in familiar texts and contexts in accordance with workplace procedures</p> <p>6.2 Title, headings, rows and columns located in familiar tables as per SOPs</p> <p>6.3 Information and data in simple tables identified and interpreted as per workplace procedures.</p> <p>6.4 Information is related in accordance with workplace tasks</p> <p>6.5 Familiar graphs and charts are identified in familiar texts and contexts as per SOPs</p> <p>6.6 Title, labels, axes, scale and key from familiar graphs and charts are located as per SOPs</p> <p>6.7 Information and data in familiar graphs and charts are identified and interpreted as per job requirements</p> <p>6.8 Information is related to relevant workplace tasks as per job requirements.</p>
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## RANGE

This section provides work environments and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

Variable	Range
<p>1. Simple measuring equipment may include but not limited to:</p>	<ul style="list-style-type: none"> <li>• Rulers</li> <li>• Watches/clocks</li> <li>• Scales</li> <li>• Thermometers</li> <li>• AVO meter</li> </ul>
<p>2. Common 2D shapes and common 3D shapes may include but not limited to:</p>	<ul style="list-style-type: none"> <li>• Round</li> <li>• Square</li> <li>• Rectangular</li> <li>• Triangle</li> <li>• Sphere</li> <li>• Cylinder</li> <li>• Cube</li> <li>• Polygons</li> <li>• Cuboids</li> </ul>

## REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit of competency.

### Required Skills

The individual needs to demonstrate the following skills:

- Measuring
- Logical thinking
- Computing
- Drawing of graphs
- Applying mathematical formulas
- Analytical

### Required knowledge

The individual needs to demonstrate knowledge of:

- Types of common shapes
- Differentiation between two dimensional shapes / objects
- Formulae for calculating area and volume
- Types and purpose of measuring instruments
- Units of measurement and abbreviations
- Fundamental operations (addition, subtraction, division, multiplication)
- Rounding techniques
- Types of fractions
- Different types of tables and graphs
- Meaning of graphs, such as increasing, decreasing, and constant value
- Preparation of basic data, tables & graphs

### EVIDENCE GUIDE

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge and range.

1. Critical aspects of Competency	<p>Assessment requires evidence that the candidate:</p> <p>1.1 Simple fractions, decimals and percentages are correctly identified and interpreted</p> <p>1.2 Performed a limited range of calculations using the 4 operations</p> <p>1.3 Performed calculations using familiar units of measurement</p> <p>1.4 Recognised common symbols and keys in familiar maps, plans and diagrams</p> <p>1.5 Constructed simple tables and graphs using familiar data</p>
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	1.6 Identified and interpret information in familiar tables, graphs and charts
2. Resource Implications	2.1 Access to relevant workplace where assessment can take place 2.2 Appropriately simulated environment where assessment can take place 2.3 Materials relevant to the proposed activity or tasks
3. Methods of Assessment	Competency may be assessed through: 3.1 Written Test 3.2 Interview 3.3 Oral Questioning
4. Context of Assessment	Competency may be assessed 4.1 On the job 4.2 Off the job 4.3 During industrial attachment
5. Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

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