

## DEMONSTRATE NUMERACY SKILLS

UNIT CODE: ENG/OS/IPO/BC/02/4/A

### UNIT DESCRIPTION

This unit covers the competencies required to perform numerical functions. The person who is competent in this unit shall be able to: Identify and use whole numbers and simple fractions, decimals and percentages; Identify, measure and estimate familiar quantities for work, Read and use familiar maps, plans and diagrams for work, Identify and describe common 2D and some 3D shapes for work, Construct simple tables and graphs for work using familiar data, Identify and interpret 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 1.2 understanding of place value by organising numbers from smallest to largest demonstrated 1.3 Required numerical information located and decision made on appropriate method to solve a problem 1.4 Limited range of calculations performed using the 4 operations 1.5 Links between operations described 1.6 Estimations made to check reasonableness of results of problem solving process 1.7 Numerical information recorded, and the result of the task communicated using informal and some formal language and symbolism

<p>2. Identify, measure and estimate familiar quantities for work</p>	<p>2.1 Measurement information in workplace tasks and texts identified and interpreted</p> <p>2.2 Familiar units of measurement needed for tasks is identified</p> <p>2.3 Familiar and simple amounts estimated</p> <p>2.4 Appropriate measuring equipment selected</p> <p>2.5 Simple measuring equipment graduated in familiar units to measure relevant quantities is used</p> <p>2.6 Calculation done using familiar units of measurement</p> <p>2.7 measurements and results checked against estimates</p> <p>2.8 Results are recorded or reported</p> <p>2.9 Results relevant to the workplace task are communicated using informal and some formal mathematical and general language</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</p> <p>3.2 Common symbols and keys recognised in familiar maps, plans and diagrams</p> <p>3.3 Understanding of direction and location demonstrated by describing the location of objects, or route to familiar places</p> <p>3.4 Instructions to locate familiar objects or places are given and followed</p> <p>3.5 Informal and some formal oral mathematical language and symbols are used</p>
<p>4. Identify and describe common 2D and some 3D shapes for work</p>	<p>4.1 Common 2D shapes and some common 3D shapes in familiar situations are identified and named</p> <p>4.2 Common 2D shapes and designs are compared and classified</p> <p>4.3 Informal and some formal language used to describe common two-dimensional shapes and some common three-dimensional shapes</p> <p>4.4 Simple items used to draw or construct common 2D shapes</p> <p>4.5 Common 3D shapes matched to their 2D sketches or nets</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</p> <p>5.2 Familiar data to be collected is determined</p>

	<p>5.3 A method to collect data is selected</p> <p>5.4 A small amount of simple familiar data is collected</p> <p>5.5 One or two variables determined from the data collected</p> <p>5.6 Data ordered and collated</p> <p>5.7 A table constructed, and data enter</p> <p>5.8 Graphs are constructed using data from table</p> <p>5.9 Results are promptly checked</p> <p>5.10 Graph information related to work is reported or discussed using informal and some formal mathematical and general language</p>
6. Identify and interpret information in familiar tables, graphs and charts for work	<p>6.1 Simple tables are identified in familiar texts and contexts</p> <p>6.2 Title, headings, rows and columns located in familiar tables</p> <p>6.3 Information and data in simple tables identified and interpreted</p> <p>6.4 Information is related to relevant workplace tasks</p> <p>6.5 Familiar graphs and charts are identified in familiar texts and contexts</p> <p>6.6 Title, labels, axes, scale and key from familiar graphs and charts are located</p> <p>6.7 Information and data in familiar graphs and charts is identified and interpreted</p> <p>6.8 Information related to relevant workplace tasks</p>

## 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
1. Simple measuring equipment	<p>May include but not limited to:</p> <p>1.1 Rulers</p> <p>1.2 Watches/clocks</p> <p>1.3 Scales</p> <p>1.4 Thermometers</p>

	1.5 AVO meter
2. Common 2D shapes and common 3D shapes	May include but not limited to: 2.1 Round 2.2 Square 2.3 Rectangular 2.4 Triangle 2.5 Sphere 2.6 Cylinder 2.7 Cube 2.8 Polygons 2.9 Cuboids
3. Diagrammatical representation	May include but not limited to: 3.1 Charts 3.2 Maps 3.3 Graphs

## 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:

- Applying Fundamental operations (addition, subtraction, division, multiplication)
- Using calculator
- Using different measuring tools

### 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> <ul style="list-style-type: none"> <li>1.1 Simple fractions, decimals and percentages are correctly identified and interpreted</li> <li>1.2 Performed a limited range of calculations using the 4 operations</li> <li>1.3 Performed calculations using familiar units of measurement</li> <li>1.4 Recognised common symbols and keys in familiar maps, plans and diagrams</li> <li>1.5 Constructed simple tables and graphs using familiar data</li> <li>1.6 Identified and interpret information in familiar tables, graphs and charts</li> </ul>
2. Resource Implications	<ul style="list-style-type: none"> <li>2.1 Calculator</li> <li>2.2 Basic measuring instruments</li> </ul>
3. Methods of Assessment	<p>Competency may be assessed through:</p> <ul style="list-style-type: none"> <li>3.1 Written Test</li> <li>3.2 Interview/Oral Questioning</li> <li>3.3 Demonstration</li> </ul>
4. Context of Assessment	Competency may be assessed in an off the job setting
5. Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.