



## LITERACY PROFILE:

# Coal Miner

- Reading**
- Speaking and listening**
- Critical thinking**
- Writing**
- Numeracy**
- Technology**

## Reading tasks

*"Read" implies that the person reads and understands.*

### Read signs and short texts

- Safety signs
- Notices
- Evacuation instructions
- Capacity of lifting equipment
- Notes and reminders on whiteboard / blackboard
- Dials and gauges on equipment (analog and digital)

### Read charts, graphs and tables

- Production figure information – provided in graph form
- Pay information

### Read forms on job

- Job safety analysis forms
- Permit to work form
- Tool box briefing material in short handout / memo form
- Incident reports

### Read plans

- Mine plan or map

### Read instructions

- Work instructions – standard format including training requirements, PPE requirements, equipment and material requirements, steps and key points.
- Quality procedures
- Mine managers instructions
- MSDS sheets

### Read memos and notices

- Health and safety information – posters and information on notice boards, pamphlets
- Memos from management
- Meeting information and reports from meetings

### Read employment related documents

- Employment agreement
- Memos or notices from HR and union
- Application forms
- Job descriptions

### Read training material (documents can be very complex, with high level language)

- Mineworker logbook
- Training materials
- Handouts

### Read excerpts from legislation, regulations or industry standards

If attempting unit standard 7142 – includes Health and Safety in Employment (HSE) Act 1992; Resource Management Act 1991; Crown Minerals Act 1991; Hazardous Substances and New Organisms (HSNO) Act 1996, HSNO Regulations 2001; and amendments

## Reading skills

Interpret information from graphical material, e.g. tables, plans, diagrams, pie charts, bar charts.

Use a key to find graphical material on plans and tables.

Follow written instructions (may include diagrams).

Report accurately on the information read.

Predict what will be contained in a text.

Skim a text for "gist".

Scan text / table / label to find specific piece of information.

Identify the main points from a page of text.

Summarise material read in own words.

Make inferences based on what training material does not say.

### Underpinning knowledge

Common vocabulary and abbreviations.

Technical vocabulary and abbreviations.

*Note: These reading skills require mastery of other underpinning skills such as word recognition, interpreting meaning.*



## Writing tasks

### Sign off documents to confirm read and understood

- Permit to work
- Licensing forms
- Unit Standard assessment results

### Write short notes

- Write short notes to inform others e.g. lockout card

### Complete organisational forms and questionnaires independently

#### On job

- Gas testing form
- Production or tracking forms
- Other forms

#### Employment related

- Job application form
- Employee details form
- Leave application form
- Tax code declaration
- Timesheet

### Complete organisational forms with the assistance of others

- Job safety analysis sheet
- Incident report
- Shift report (metres cut, calculations, explanation)

### Write for training / learning purposes

- Write entries in trainee mineworker logbook
- Keep notes during training
- Write assessment answers



## Writing skills

Sign name on forms to indicate understanding (form of binding agreement).

Write simple correct text in appropriate places and in appropriate formats

- staying on the line
- correct use of upper and lower case
- correct spelling and abbreviations
- large lettering.

Complete forms using numbers, single words, short sentences

- handwriting must be legible
- abbreviations can be used
- spelling must be understandable, but correct spelling not critical
- grammar and punctuation must be used.

Write notes and short sentences

- use recognisable spelling
- use diagrams and sketches to clarify points
- write points in a logical order
- use punctuation
- attempt to use correct tenses and verb / subject agreement.

Write short answers to assessment questions

- handwriting must be legible
- abbreviations can be used
- spelling must be correct
- grammar and punctuation must be understandable but do not need to be 100% correct.

## Speaking and listening tasks

- Listen to oral instructions from supervisor
- Listen to verbal explanations / training
  - on job instructions
  - toolbox briefings
  - special job requirements
  - training session presentation

- Listen to presentations from management, union officials and others (meetings)
- Ask questions to clarify oral instruction / explanation
- Report where work is up to
- Ask for assistance when needed

- Communicate in noisy environment using hand signals, gestures, lip reading
- Communicate with co-workers (team work) during day-to-day work situations

## Speaking and listening skills

Speak clearly.

Ask for help if necessary.

Give information in a sensible order.

Use suitable body language.

Use hand signals and gestures to communicate in noisy environment.

Use questioning techniques including using open / closed questions to gain information, check understanding and encourage further discussion.

Use active listening skills e.g.

- repeat message back to sender
- summarise instructions in own words
- following techniques e.g. saying "aha" or "okay" as you follow what someone is saying.

Use language appropriate to situation and person.

Discuss topics which are appropriate in work context.

### Underpinning knowledge / understanding

Communication is a two way process.

There is a range of spoken language styles which change with purpose, topic and audience.

There are ways of making positive and negative statements.

There are ways of initiating and concluding conversations.

Summarising can be used for checking and clarification.

Pronunciation and tone can affect the communication process.

Messages are conveyed by body language and facial expressions.

There are barriers to communication, especially cross cultural communication.



## Numeracy tasks

- Assess weight of objects so these can be moved safely
- Estimate weight of coal (e.g. in a shuttle car) in tonnes (includes half, quarter, third etc)
- Take gas and pressure readings
- Estimate length (e.g. of tunnel) in metres
- Estimate the amount of timber needed for various jobs e.g. to build wall supports or roof sections

- Estimate the weight of equipment which is to be conveyed down the shaft to ensure that it does not exceed the capacity of lifting machinery
- Estimate and calculate angles e.g. grade of road
- Measure lengths e.g. of materials required
- Measure the length and width of equipment to ensure it will fit through the shaft

- Calculate amounts of materials required
- Use calculations to identify if there is risk from gases present
- Interpret production data presented in graph form.
- Refer to tables and graphs showing production performance figure e.g. tonnes produced per shift, metres gained per shift
- Use development rate to identify how many metres must be gained during the shift

## Numeracy skills

Estimate using metric measuring systems:

- weight
- length
- width
- diameter.

Measure accurately using metric measurement systems:

- weight
- length
- width
- diameter
- pressure.

Measure angles accurately.

Add, subtract, multiply and divide whole numbers and decimal numbers.

Convert fractions to decimals and decimals to fractions.

Work with ratios.

Use 12 or 24hr clock to estimate, measure, and record time.

Use Celsius temperature scale.

Recognise common angles such as 15, 30, 45, 90 degrees.

Calculate values using formulae

- volume
- area
- Boyle's law
- Charles's law
- trigonometry.

Perform formulae-based calculations on a calculator.

Identify and extract numerical information from graphs and tables.

Recognise and use geometric concepts

- straight
- square
- parallel
- flat
- round
- perpendicular.

Understand differences between imperial and metric measurement systems.

### Underpinning knowledge / skills

Numeracy skills are dependent on people understanding the concepts and principles that underpin an action. This profile focuses on the skills required for the job role.

Examples of underpinning knowledge / skills might include:

- understand decimal numbers and decimal places
- understand what numerical concepts mean and what they are used for
- recognize a range of formats for presenting data e.g. pie graph, pictogram, bar chart
- round numbers up and down
- count on and count back to reach required number.

## Critical thinking tasks

- Work out order to complete a job in
- Identify when assistance is needed
- Work with others to move heavy items around confined spaces
- Select correct, personal protective gear, equipment and tools to do the job effectively
- Identify problems with equipment and act to correct
- Decide if mined product meets quality standards and / or customer specifications
- Deal with contingencies
  - equipment problems
  - health and safety risk
  - near miss
  - incident e.g. cave-in
  - accident
- Apply knowledge of gas testing and gas level standards to identify if gas levels are safe in the mine area



## Critical thinking skills

Identify if you have enough knowledge and skill to take action on own.

Identify when you need assistance from others.

Understand production process and the implications of this for your work role.

Understand the quality system and the implications of this for your work role.

Apply knowledge of safety requirements and principles to work practice.

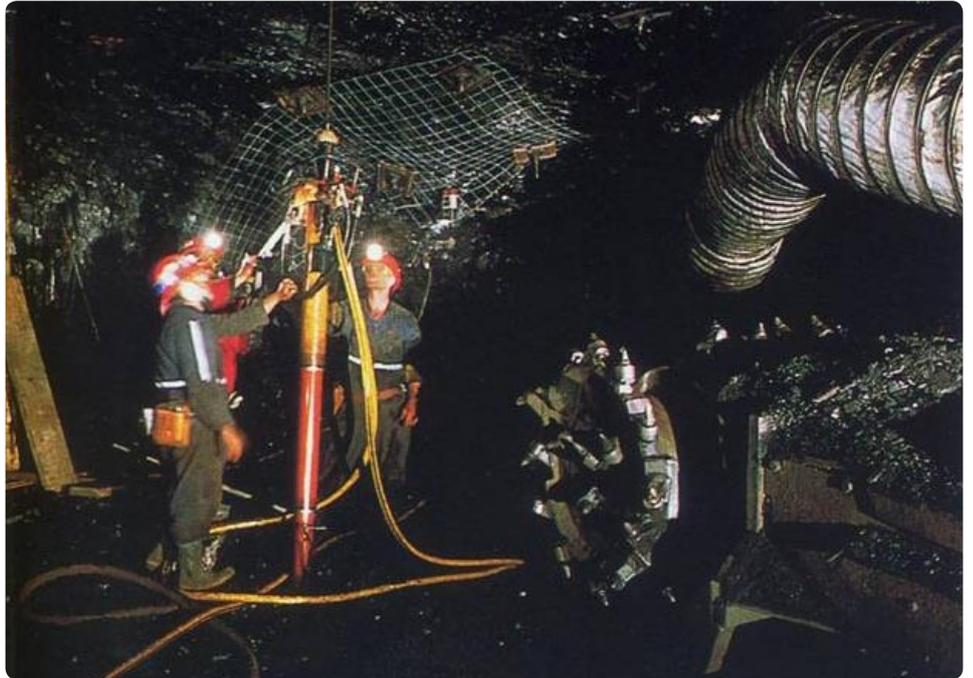
Apply knowledge of efficient and safe mining practice to work carried out.

Recall and follow specified procedures to deal with contingencies.

## Technology related tasks

### Emerging

- Use computer to check information on company intranet e.g. superannuation
- Use computer system in mine control room (some individuals)
  - navigate around control system
  - read and interpret data from screen
  - enter data to update system
- Use remote control devices to operate machinery.



## Technology skills

*EMERGING and / or not used by all miners.*

Operate a computer

- start the computer
- log in if needed
- start appropriate application
- exit appropriate application
- turn off computer.

Identify elements of computer application and the associated function of the element e.g. menus and menu options, toolbars.

Identify appropriate computer application for task.

Operate a computer application.

Enter or update data using a computer.

### Underpinning knowledge

Understand links between computer displays and job tracking systems.

Apply knowledge of organisation policies about computer use when using the computer system.

Understand different types of computer file and their purpose – document, application, system.

### Notes:

This profile relates to coal miners and is based on roles from a number of companies.

The profile represents a combined skill set. Individuals will have strengths and weaknesses across the areas of workplace literacy described in the profile. Coal miners will also use different combinations of the skills identified depending on where they are at in their training.

Different companies may require staff to use slightly different subsets of skills from the profile. In some instances companies may have additional tasks and skills required of their staff. The differences will depend on the company systems and management structure.