



Saskatchewan
Apprenticeship and
Trade Certification
Commission

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Provincial Occupational Analysis

Scaffolder

2016

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Recognition:

To promote transparency and consistency, this document has been adapted from the National Occupational Analysis (Employment and Social Development Canada).

Background

The POAs have the following objectives:

- to describe and group the tasks performed by skilled workers in Saskatchewan;
- to develop instruments for use in the preparation of certification examinations and curricula for training leading to the certification of skilled workers;
- to supply stakeholders such as employers, employees, associations, industries, training institutions, and governments with analyses of occupations.

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What does a POA look like? How do I read it?

To facilitate understanding of the occupation, the work performed by tradespersons is divided into the following categories:

Blocks	the largest division within the analysis that is comprised of a distinct set of trade activities
Tasks	distinct actions that describe the activities within a block
Sub-Tasks	distinct actions that describe the activities within a task
Key Competencies	activities that a person should be able to do in order to be called 'competent' in the trade

The analysis also provides the following information:

Tools and Equipment	categories of tools and equipment used to perform all tasks in the block; these tools and equipment are listed in Appendix A
Required Knowledge	the elements of knowledge that an individual must acquire to adequately perform a task

The appendices located at the end of the analysis are described as follows:

Appendix A — TOOLS AND EQUIPMENT	a non-exhaustive list of tools and equipment use in this trade
Appendix B — GLOSSARY	definitions or explanations of selected technical terms used in the analysis
Appendix C — ACRONYMS	a list of acronyms used in the analysis with their full name
Appendix D — BLOCK AND TASK WEIGHTING	the block and task percentages submitted by industry, and the provincial averages of these percentages; these provincial averages determine the number of questions for each block and task of the provincial examination
Appendix E — PIE CHART	a graph which depicts the provincial percentages of examination questions assigned to blocks
Appendix F — TASK PROFILE CHART	A chart which outlines graphically the blocks, tasks and sub-tasks of this analysis



DEVELOPMENT AND VALIDATION OF ANALYSIS

Development of Analysis (POA)

An analysis is developed by a committee of industry experts in the field, led by the program development team for the Saskatchewan Apprenticeship and Trade Certification Commission (SATCC). This analysis breaks down all the tasks performed in the occupation and describes the required knowledge and key competencies required for a tradesperson to demonstrate competence in the trade.

Validation and Weighting

The analysis is reviewed with industry for validation and weighting. SATCC consults with industry to validate and weight the document, examining the blocks, tasks, and sub-tasks of the analysis.

ANALYSIS

Safe working procedures and conditions, accident prevention, and the preservation of health are of primary importance to industry in Saskatchewan. These responsibilities are shared and require the joint efforts of government, employers and employees. It is imperative that all parties are aware of circumstances and conditions that may lead to injury or harm. Safe learning experiences and work environments can be created by controlling the variables and behaviours that may contribute to accidents or injury.

It is generally recognized that safety-conscious attitudes and work practices contribute to a healthy, safe and accident-free work environment.

It is imperative to apply and be familiar with the Occupational Health and Safety (OH&S) Acts and Workplace Hazardous Materials Information System (WHMIS) regulations. As well, it is essential to determine workplace hazards and take measures to protect oneself, co-workers, the public and the environment.

Safety education is an integral part of on-the job training and is reinforced in technical training. As safety is an imperative part of all trades, it is assumed and therefore it is not included as a qualifier of any activities. However, the technical safety tasks and sub-tasks specific to the trade are included in this analysis.



SCOPE OF THE SCAFFOLDER SUB-TRADE

“Scaffolder” is this trade’s official provincial occupational title approved by industry. This analysis covers tasks performed by a scaffolder whose occupational title has been identified by the province of Saskatchewan.

Scaffolders lay out, erect, use, maintain, and dismantle scaffolding including access scaffold, shoring, falsework, bleachers, and stages.

Trends	In the scaffolder trade, the use of technology has increased. More tools and equipment have become mechanized. There is greater emphasis on safety practices on job sites due to more stringent jurisdictional regulations and the competitive nature of bidding and winning project contracts. The availability of environmentally friendly building materials has increased.
Tools and Equipment	See Appendix A.

Task 1 **Uses and maintains tools and equipment.****Required Knowledge**

K 1	measuring, layout and marking tools such as tape measures, squares, levels, and plumb bobs
K 2	fastening tools such as hammers, wrenches, screwdrivers and staplers
K 3	dismantling and prying tools such as nail pullers, wrecking bars and goosenecks
K 4	cutting tools such as saws and utility knives
K 5	types of electric and battery powered portable power tools such as saws, drills and grinders
K 6	gas powered portable power tools such as compressors
K 7	powder actuated portable power tools and their applicable shots and nails
K 8	manufacturers' specifications
K 9	types of stationary power tools such as table saws, mitre saws and bench grinders
K 10	types of material handling, rigging and hoisting equipment
K 11	components of material handling, rigging and hoisting equipment
K 12	safe material handling, rigging and hoisting practices
K 13	fibre and wire rope construction and strengths
K 14	knots and hitches
K 15	regulation requirements (OH&S)
K 16	forklift and telehandler operation
K 17	basic line terminology such as Vernier scale and turning angles
K 18	survey instrument set-up tools such as levels and plumb bobs
K 19	survey instruments such as builder's levels, laser levels and transits

Sub-task**A-1.01 Maintains hand, power and pneumatic tools.****Key Competencies**

- A-1.01.01 select and manipulate hand tools
 - A-1.01.02 maintain hand tools
 - A-1.01.03 recognize hazards such as worn cords, leaking hoses and dull blades
 - A-1.01.04 select, set up and operate portable power tools
 - A-1.01.05 shut down, dismantle and store portable power tools
 - A-1.01.06 maintain portable power tools
 - A-1.01.07 recognize hazards such as worn cords, leaking hoses and dull blades
 - A-1.01.08 select, set up and operate portable power tools
 - A-1.01.09 shut down, dismantle and store portable power tools
 - A-1.01.10 maintain portable power tools
-

Sub-task**A-1.02 Maintains stationary tools.****Key Competencies**

- A-1.02.01 recognize hazards such as worn cords, leaking hoses and dull blades
- A-1.02.02 select, set up and operate stationary power tools
- A-1.02.03 shut down, dismantle and store stationary power tools
- A-1.02.04 maintain stationary power tools

Sub-task**A-1.03 Uses layout equipment****Key Competencies**

- A-1.03.01 ability to determine instrument accuracy

Sub-task

A-1.04 Uses material handling, rigging and hoisting equipment.

Key Competencies

A-1.04.01	calculate loads and weights
A-1.04.02	manually and mechanically lift and hoist
A-1.04.03	select material handling, rigging and hoisting equipment
A-1.04.04	inspect material handling, rigging and hoisting equipment
A-1.04.05	identify unsafe material handling, rigging and hoisting equipment
A-1.04.06	connect and operate material handling, rigging and hoisting equipment
A-1.04.07	dismantle and store material handling, rigging and hoisting equipment
A-1.04.08	maintain material handling, rigging and hoisting equipment

Task 2

Performs safety related activities.

Required Knowledge

K 1	types of personal protective equipment (PPE) such as hard hats, hearing protection and fall protection such as fall arrest, fall restraint, life lines, and tool lanyards
K 2	respiratory protective equipment
K 3	PPE operation
K 4	confined space entry
K 5	asbestos abatement

Sub-task

A-2.01 Uses personal protective equipment (PPE) and safety equipment.

Key Competencies

A-2.01.01	recognize worksite hazards
A-2.01.02	select PPE
A-2.01.03	inspect and maintain PPE
A-2.01.04	select and use fall protection equipment

Sub-task**A-2.02 Maintains safe work environment.****Key Competencies**

- A-2.02.01 use barrier equipment and structures such as barricades, caution tape and bump ropes to bring attention to potential hazardous situations, and to prevent entry of workers and public on site
- A-2.02.02 install temporary lighting, environmental protection and hoarding
- A-2.02.03 follow safe work procedures such as fall protection, confined space, lock-out and tag-out, material handling, and access and egress
- A-2.02.04 identify and report hazards to prevent incidents
- A-2.02.05 apply WHMIS procedures such as record keeping of material safety data sheets (MSDS), and product identification, handling and disposal
- A-2.02.06 comply with regulations such as OH&S and other jurisdictional regulations
- A-2.02.07 keep worksite clean to ensure a safe, organized worksite environment
- A-2.02.08 block, cover, fasten and label openings to avoid injury to workers and public
- A-2.02.09 use and write pre-job safety instructions and hazard assessments to determine the hazards and risks of task being performed
- A-2.02.10 use site safety plan that is posted on the job site to identify location of safety equipment such as first aid stations, eye wash stations and muster stations

Task 3**Uses building materials.****Required Knowledge**

- K 1 types of fasteners, adhesives and connectors such as double-headed nails, concrete inserts, hangers and spray adhesive
- K 2 applications for specific fasteners, adhesives and connectors such as bracing, material restraint and structural support
- K 3 problems related to the installation of fasteners, adhesives and connectors such as moisture, pressure and wind loads
- K 4 select fasteners, adhesives and connectors
- K 5 store fasteners, adhesives and connectors
- K 6 structural materials such as wood, concrete, masonry and steel
- K 7 structural material applications
- K 8 structural material properties such as composition, moisture content, sizing and strength
- K 9 non-structural materials such as plastic, siding and roofing materials

K 10	non-structural material applications
K 11	non-structural material properties such as composition, moisture content, sizing and strength

Sub-task

A-3.01 **Uses fasteners, adhesives and connectors**

Key Competencies

A-3.01.01	select fasteners, adhesives and connectors
A-3.01.02	store fasteners, adhesives and connectors

Sub-task

A-3.02 **Uses structural materials.**

Key Competencies

A-3.02.01	assess condition, quality or grade of structural materials
A-3.02.02	select structural materials
A-3.02.03	store structural materials

Sub-task

A-3.03 **Uses non-structural materials.**

Key Competencies

A-3.03.01	assess condition, quality or grade of non-structural materials
A-3.03.02	select non-structural materials
A-3.03.03	store non-structural materials

Task 4

Interprets Construction Documents.

Required Knowledge

K 1	types of drawings such as floor, elevation, section, and shop
K 2	drawing components such as lines, symbols and legends
K 3	components of specification documents such as sections and tables
K 4	the National Building Code (NBC)
K 5	the provincial, territorial and municipal codes
K 6	the Canadian Standards Association (CSA) standards
K 7	the Occupational Health & Safety (OH&S) Act and Regulations

K 8	the possibility of specific on-site company policies
K 9	the Workplace Hazardous Materials Information System (WHMIS) symbols and data sheets
K 10	lockout, tag-out and scaffold tag procedures
K 11	procedures for performing quantity take-offs
K 12	site conditions
K 13	loading requirements
K 14	manufacturers' specifications
K 15	access scaffolding construction
K 16	support structure construction
K 17	task requirements
K 18	requirements of other trades

Sub-task

A-4.01 Interprets engineered drawings and specifications

Key Competencies

A-4.01.01	use interpretation instruments such as protractors, scale rulers and calculators
A-4.01.02	apply codes, regulations and standards
A-4.01.03	use manufacturers' documentation

Sub-task

A-4.02 Applies codes, regulations and standards

Key Competencies

A-4.02.01	comply with codes, regulations and standards
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Sub-task

A-4.03 Estimates materials

Key Competencies

A-4.03.01	perform calculations such as area, volume and load weight
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Sub-task**A-4.04 Schedules work sequence****Key Competencies**

- A-4.04.01 record sequence of project
- A-4.04.02 schedule materials to meet project needs
- A-4.04.03 work with other trades
- A-4.04.04 estimate time requirements to complete tasks

Task 5 Performs Project Related Skills.**Required Knowledge**

- K 1 basic geometry such as cross-diagonal and the 3-4-5 method of squaring
- K 2 basic survey theory
- K 3 excavation (digging/backfilling) techniques
- K 4 base materials such as clay, sand and gravel
- K 5 methods of communication
- K 6 types of hoarding and shelters such as heating, environmental and safety
- K 7 intended use of hoarding and shelters
- K 8 construction techniques of hoarding and shelters

Sub-task**A-5.01 Performs site layout****Key Competencies**

- A-5.01.01 operate survey instrument set-up and layout tools such as levels and plumb bobs
- A-5.01.02 operate instrument layout equipment such as builder's levels, laser levels, and transits
- A-5.01.03 establish centre line or edge locations
- A-5.01.04 establish elevations

Sub-task**A-5.02 Prepares site****Key Competencies**

- A-5.02.01 determine site conditions such as soil types, water problems and shoring requirements
 - A-5.02.02 recognize grade, level and compacted base
 - A-5.02.03 recognize the possibility of collapse of structures due to excavation, etc.
 - A-5.02.04 install protection such as shoring
 - A-5.02.05 plan for storage and access of materials and equipment
-

Sub-task**A-5.03 Communicates****Key Competencies**

- A-5.03.01 verbally communicate ideas and methods of construction
 - A-5.03.02 complete work-related records
 - A-5.03.03 communicate with authorities such as OH&S inspectors, engineers and site superintendents
 - A-5.03.04 use International Hand Signals for equipment
 - A-5.03.05 use scaffolding component hand signals
-

Sub-task**A-5.04 Erects Hoarding and Shelters****Key Competencies**

- A-5.04.01 erect, inspect, maintain, and dismantle hoarding and shelters

BLOCK B

ERECTS TEMPORARY STRUCTURES

Trends

Scaffolders must access various work locations and must be able to use different types of access equipment. Sometimes scaffolders must design and build access equipment and structures such as scaffolds, ladders and ramps to perform their work, or to be used by other trades.

Tools and Equipment

See Appendix A.

Task 6

Erects Access Structures.

Required Knowledge

- K 1 types of ramps, ladders and stairs used for access
- K 2 types of access scaffolds such as wooden, welded frame, tube and clamp, modular and system, and rolling
- K 3 specialized applications such as cantilevered, birdcage and hanging
- K 4 access structure components such as frames, ledgers, transoms, sills, outrigger, and side brackets
- K 5 top rail, mid rail and toe board requirements
- K 6 length and height requirements
- K 7 loading requirements
- K 8 physical principles such as centre of gravity, dynamic force effects and leverage
- K 9 site conditions such as base material and equipment access
- K 10 specific access structure construction techniques
- K 11 machine scaffolds
- K 12 sequence of installation
- K 13 work schedules
- K 14 inspection routines and requirements
- K 15 sequence of dismantling
- K 16 stacking, banding and securing techniques

Sub-task**B-6.01 Lays out access structures****Key Competencies**

- B-6.01.01 sketch drawings
 - B-6.01.02 calculate component quantities
 - B-6.01.03 store materials with regard to sequence of installation
-

Sub-task**B-6.02 Assembles access structures****Key Competencies**

- B-6.02.01 verify base conditions
 - B-6.02.02 inspect individual components
 - B-6.02.03 verify level and plumb
 - B-6.02.04 install bracing, brackets, guys and ties to existing structures or ground
-

Sub-task**B-6.03 Maintains access structures****Key Competencies**

- B-6.03.01 recognize structural and component faults and defects
 - B-6.03.02 verify level and plumb
 - B-6.03.03 determine tight and sound
-

Sub-task**B-6.04 Dismantles access structures****Key Competencies**

- B-6.04.01 inspect components for conformity to manufacturer's specifications
- B-6.04.02 store components

Task 7**Erects Shoring and Falsework.****Required Knowledge**

K 1	types of shoring applications such as for slab formwork and masonry support
K 2	types of applications such as for bearing wall removal or other structural support
K 3	types of shores such as wood and steel
K 4	shoring components such as mudsill, wedge, shore and brace
K 5	length and height requirements
K 6	loading requirements
K 7	physical principles such as centre of gravity, dynamic force effects and leverage
K 8	site conditions such as base material and equipment access
K 9	specific shoring and falsework construction techniques
K 10	sequence of installation
K 11	work schedules
K 12	inspection routines and requirements
K 13	sequence of dismantling
K 14	stacking, banding and securing techniques

Sub-task**B-7.01 Lays out shoring and falsework****Key Competencies**

B-7.01.01	sketch drawings
B-7.01.02	calculate component quantities
B-7.01.03	store materials with regard to sequence of installation

Sub-task**B-7.02 Assembles shoring and falsework****Key Competencies**

B-7.02.01	verify base conditions
B-7.02.02	inspect individual components
B-7.02.03	fabricate wooden wedges

- B-7.02.04 verify level and plumb
 - B-7.02.05 install bracing, brackets, guys and ties to existing structures or ground
-

Sub-task

B-7.03 Maintains shoring and falsework

Key Competencies

- B-7.03.01 recognize component faults and defects
 - B-7.03.02 verify level and plumb
 - B-7.03.03 determine tight and sound
-

Sub-task

B-7.04 Dismantles shoring and falsework

Key Competencies

- B-7.04.01 inspect components for conformity to manufacturer's specifications
 - B-7.04.02 store components
-

Task 8 Erects Support Structures.

Required Knowledge

- K 1 types of support structures such as bleachers and stages
- K 2 support structure components such as frames, ledgers, transoms and clamps
- K 3 top rail, mid rail and toe board requirements
- K 4 length and height requirements
- K 5 loading requirements
- K 6 physical principles such as centre of gravity, dynamic force effects and leverage
- K 7 site conditions such as base material and equipment access
- K 8 specific support structure construction techniques
- K 9 machine scaffolds
- K 10 sequence of installation
- K 11 work and performance schedules
- K 12 inspection routines and requirements
- K 13 sequence of dismantling
- K 14 stacking, banding and securing techniques

Sub-task**B-8.01 Lays out support structures****Key Competencies**

- B-8.01.01 sketch drawings
 - B-8.01.02 calculate component quantities
 - B-8.01.03 store materials with regard to sequence of installation
-

Sub-task**B-8.02 Assembles support structures****Key Competencies**

- B-8.02.01 verify base conditions
 - B-8.02.02 inspect individual components
 - B-8.02.03 verify level and plumb
 - B-8.02.04 install bracing, brackets, guys and ties to existing structures or ground
-

Sub-task**B-8.03 Maintains support structures****Key Competencies**

- B-8.03.01 recognize structural and component faults and defects
 - B-8.03.02 verify level and plumb
 - B-8.03.03 determine tight and sound
-

Sub-task**B-8.04 Dismantles support structures****Key Competencies**

- B-8.04.01 inspect components for conformity to manufacturer's specifications
- B-8.04.02 store components

Task 9**Erects Suspended Work Platforms.****Required Knowledge**

K 1	types of work platforms such as swing stages
K 2	work platform components such as thrust outs, counterweights and descenders
K 3	top rail, mid rail and toe board requirements
K 4	length and height requirements
K 5	loading requirements
K 6	physical principles such as centre of gravity, dynamic force effects, and leverage
K 7	site conditions such as roof construction and equipment access
K 8	specific work platform construction techniques
K 9	machine scaffolds
K 10	sequence of installation
K 11	work schedules
K 12	inspection routines and requirements
K 13	sequence of dismantling
K 14	stacking, banding and securing and winding techniques

Sub-task**B-9.01 Lays out work platforms****Key Competencies**

B-9.01.01	sketch drawings
B-9.01.02	calculate component quantities
B-9.01.03	store materials with regard to sequence of installation

Sub-task**B-9.02 Assembles work platforms****Key Competencies**

B-9.02.01	prepare supporting surfaces such as roof or wall
B-9.02.02	verify level and plumb
B-9.02.03	install bracing, brackets, guys and ties to existing structures or ground

Sub-task**B-9.03 Maintains work platforms****Key Competencies**

- B-9.03.01 inspect lines and rigging
 - B-9.03.02 recognize component faults and defects
 - B-9.03.03 verify level, plumb and angles
 - B-9.03.04 determine tight and sound
-

Sub-task**B-9.04 Dismantles miscellaneous equipment****Key Competencies**

- B-9.04.01 inspect components for conformity to manufacturer's specifications
 - B-9.04.02 store components
-

Task 10**Erects Specialized Safety Structures.****Required Knowledge**

- K 1 specialized safety structures such as nets and fans
- K 2 specialized safety structure components such as debris nets and fall protection nets
- K 3 length and height requirements
- K 4 loading requirements
- K 5 physical principles such as centre of gravity, dynamic force effects and leverage
- K 6 site conditions such as location requirements and equipment access
- K 7 specific specialized safety structure construction techniques
- K 8 machine scaffolds
- K 9 sequence of installation
- K 10 work schedules
- K 11 inspection routines and requirements
- K 12 sequence of dismantling
- K 13 stacking, banding and securing and winding techniques

Sub-task**B-10.01 Lays out specialized safety structures****Key Competencies**

- B-10.01.01 sketch drawings
 - B-10.01.02 calculate component quantities
 - B-10.01.03 store materials with regard to sequence of installation
-

Sub-task**B-10.02 Assembles specialized safety structures****Key Competencies**

- B-10.02.01 prepare supporting surfaces such as wall or roof
 - B-10.02.02 verify angle requirement and coverage area
 - B-10.02.03 install bracing, brackets, guys and ties to existing structures or ground
-

Sub-task**B-10.03 Maintains specialized safety structures****Key Competencies**

- B-10.03.01 inspect lines and rigging
 - B-10.03.02 recognize structural and component faults and defects
 - B-10.03.03 verify level, plumb and angles
 - B-10.03.04 determine tight and sound
-

Sub-task**B-10.04 Dismantles specialized safety structures****Key Competencies**

- B-10.04.01 inspect components for conformity to manufacturer's specifications
- B-10.04.02 store components

APPENDICES

Hand Tools

adjustable wrench	nail puller
bars (pry, wrecking, aligning)	pencil/marketing instrument
broom	pliers and side cutters
carpenter's apron	plumb bob
caulking gun	rasps
chalk line	rollers
clamps	scrapers (cabinet, floor, form)
cold chisel	screwdrivers (Robertson, Phillips, straight, Torx, hexagonal)
dry line	scaffolder wrench
framing square	shovels
hammers (framing, sledge, smooth faced, straight, brass)	sliding t-bevel
hand level (24", 48", 6-ft., 8-ft., torpedo, line)	spud wrench
hand saws (pull, hack, rip, hole, cross cut, back, pruning)	staplers (hammer, hand, electric)
hatchet	string lines
knives (utility)	tarps
measuring tape (various)	torque wrench
multi-driver screwdriver	wheelbarrow
	wood chisels

Portable Power Tools and Accessories

calculator	hammer drill
circular saw	hydraulic jacks
cordless drill	jigsaw
coring drill and bits	mini-grinder
cut-off saw (metal)	mitre saw
cut-out tools	powder-actuated tools
concrete bits	reciprocating saw
construction heaters	router and bits
electric drill and bits	staplers
extension cords	tiger torch
fan-forced heater	wet/dry vacuum
generator	wood boring bits
grinders	wood spade bit set
ground fault circuit interrupter	

Stationary Power Tools

drill press	grinder
dust collection equipment	table saw

Pneumatic Tools and Equipment

air compressor	hoses
drills	nailers
fittings	staplers
gauges	

Rigging, Hoisting and Access Equipment

aerial work platforms	mobile crane
blocks and tackles	pinch bar
bridge crane	pulleys
cables	scaffolding
chokers	ropes
come-alongs	shackles
eyebolts	skid ramps
forklifts (variable reach forklifts)	skid steers
guardrails	slings
grip hoist (tirfor)	spreader bar
ladders	suspension rope
ladder hoist	synthetic lifting straps
ladder jacks	tag lines
lifting bags	turnbuckles
lifting beam	wire rope

Layout Instruments

builder's levels	scale rulers
chalk lines	scribers
combination squares	scribing compasses
dividers	self-retractable lanyard
drawing instruments	sliding T-bevels
dry lines	speed squares
framing squares	stair gauges
jigs	templates
laser levels	theodolites
laser measuring systems	total stations
measuring tapes	transits
plumb bobs	try squares

Personal Protective Equipment (PPE) and Safety Equipment

debris netting	respiratory equipment, dust mask and respirators
fall arrest anchor points	roof jack
fall protection equipment	rope grab
first aid kits	safety boots
full body harness	safety fans
gloves	safety glasses and shields
hard hat	safety lifeline
hearing protection	safety nets
knee pads	self-retractable lanyard
lanyard	solar protection
protection nets	tool tethers
reflective vest	

access	way or means of entering an area
access flooring	a secondary raised floor system that bears on a primary floor, used to create a chase for routing electrical and computer wiring, ventilation, ducts, etc.
access frame	ladder or stairway used to enter or exit a scaffold
acclimatization	to make or become used to new climates or new conditions
active fall protection system	procedure that relies on the user to perform a personal action that will prevent the user from falling
actual load	weight of the scaffold equipment, tools, material, and employees: when figuring contributory leg loads, either this figure or duty rating is used
allowable load	maximum load a scaffold component can safely carry; this load is 25 percent of the ultimate (or destructive) load of a single component
anchor bolt tie	positive tie that connects the scaffold to the structure
anchorage	anchor or tie point that is fixed in to a building for the purpose of securing a scaffold
bare level	platform not used and with no planks installed; counted for platform weight
bare planked level	platform not used but that has planks installed; counted for platform weight
barricade	objects positioned around the base of a scaffold to prevent access to the areas below and adjacent to the falling object hazard area
baseplate	device used to distribute the leg load to the foundation
batter boards	boards at each corner (at right angles) of an excavation and at grid lines, used to indicate the location and alignment of footing and foundation walls and columns
bay	framed section or single level of scaffold
beam	a main horizontal structural member constructed of wood, steel or concrete used to support secondary vertical loads

bearers	horizontal transverse scaffold members that support the scaffold platform and joins scaffold uprights, posts, poles, and similar members
bowline knot	universal, versatile, and easily tied and untied method of fastening rope; never jams or slips if properly tied
box tie	positive connection used when the scaffold is close to a column
bracing or brace	stabilizing component placed across vertical and horizontal members of the scaffold and fastened to them to provide strength and rigidity to the entire assembly
canopy	roof-like structure, or catch platform mounted over employees and strong enough to withstand the impact forces of potential falling objects
cantilever	structure used to extend a work platform beyond the basic scaffold framework and beyond the normal vertical supports
cantilever beam	horizontal support that extends a work platform out beyond the basic scaffold framework and beyond the normal vertical supports
capacity	regulation standard or standard for ultimate load a scaffold can hold without failure according to the manufacturer
carrick bend knot	more secure version of the sheet bend knot, preferable for joining larger diameter ropes because it does not jam and always draws tight under load
caster	swiveling rubber or steel wheel secured at the bottom of a vertical scaffold post to make it mobile
catch platform	platform installed above the employees to prevent falling objects from hitting the employees
check clamp	another name for a backup clamp or safety clamp that ensures that the clamp above will not slip down if it works loose
checks and splits	small nicks or separations across the plank material that can increase deflection
cladding	the covering of one material with another
clamp or coupler	structurally designed fastening device used to lock or connect at right angles or diagonally

competent person	a person who is qualified because of knowledge, training and experience to organize the work and its performance; is familiar with this Act and the regulations that apply to the work, and has knowledge of any potential or actual danger to health or safety in the workplace.
connector or joiner	structurally designed fastening device used to lock or connect scaffold tubes together end to end
clove hitch	quick, simple method of fastening a rope around a post or tube that can be tied in position or have the rope slipped over the end
column	a vertical structural member that supports the weight of other members
compression raker	structural, diagonal scaffold members, always under compression, that support cantilevered platforms, bridges, and putlogs from below
contributory leg load	combination of the live load and the dead load that are supported by an individual leg
cornice hook	shaped suspension device that hooks over a decorative parapet to support a suspended scaffold
counterbalance weight	solid material, which does not flow, that is attached to the back of thrustouts to counteract the overturning force of the suspended load
counterweight	weight used to counterbalance an eccentric load
coupling or locking	fasteners that hold the ends of vertical posts together
coupling pin	device that connects frame legs to each other between tiers
crib	support structure at ground level for staging plank materials and prevent their exposure to excess water/moisture
critical tie	positive connection that cannot be moved without compromising the stability or strength of the scaffold or another member
Crosby clip	hardware that anchors wire rope or cable that is looped through it
cross brace	two diagonal bars or tubes joined at their centres to form an X and used specifically in scaffold erection to stabilize the uprights/frames or to hold a scaffold member in a fixed position with respect to another scaffold member
davit	engineered hoist arm attached to a structure used to support a suspended scaffold

dead load	calculated weight of the scaffold structure itself and component parts such as framework, hoists, stairs, ladders
debris net	horizontal or diagonal netting, or screen, attached to the scaffold below the work platform to capture falling objects
deceleration device	mechanism that serves to dissipate a substantial amount of energy during a fall arrest or to limit the energy imposed on the user during a fall arrest
deck	family of platforms with widths ranging from 12" to 32" and lengths of up to 10'-0"
deflection	amount of curve or sag in a plank caused by the load
demountable wall	a wall or partition system designed to be removed from a mounting, setting, or place of support
detachable outrigger frame	support structure added to existing units to provide a wider base
drum	a type of hoist used on a suspended scaffold
dunnage	wood strips or crating between materials that provides air circulation and lifting space; waste material
duty rating	manufacturer's recommended maximum allowable load for any scaffold component; method of classifying scaffolds according to their designed load-carrying capabilities
eccentric load	point at which a scaffold load is located outside the footprint of the scaffold such as a cantilevered deck
egress	exit point for a work location
engineered drawings	a drawing prepared by an engineer, for an engineering purpose is known as an engineering drawing. It is the graphic representation of physical objects and their relationship. It is prepared, based on certain basic principles, symbolic representations, standard conventions, notations, etc. It is the only universal means of communication used by engineers and technicians.
equivalent plank	non-graded wood planks that a competent/qualified person visually inspects and load tests to determine if the material is of scaffold grade
erector	person who builds a scaffold
extendable-end frame	support structure consisting of ends and coupling tubes that allow adjustment of the frame width

face break	separation of wood fibers on the wider face of a plank as a result of overloading
fall window	distance between the anchorage point and the stopping point of an arrested fall
falsework	the structural supports and the necessary bracing required for the support of temporary loads during construction
figure 8 knot	method of securing the end of a rope to prevent its strands from unwinding or to prevent the rope from going through a block; it can be tied simply and quickly; it does not jam or damage the rope fibers; larger and stronger knot than an overhand knot
footing	supporting element at the base or bottom of a foundation wall, pier or column used to distribute weight
foundation load	total weight of the live load and the dead load that is transferred to the foundation through the baseplates and mudsills
frame clamp	equipment for fastening side-by-side scaffold legs together
frame	main component that provides the vertical legs and main horizontal bearers for the platform of a welded metal scaffold
frame-locking devices	used either to attach cross braces or to secure banana clips; three common types are spring locks, Texas quick locks, and threaded studs with wing nuts
gin wheel or well wheel	metal pulley assembly with a rope used to hoist material up onto a scaffold platform or to lower them from the platform to the ground
ground fault circuit interrupter (GFCI)	device that detects unintended electrical leaks to prevent, or shock or ground fault
guardrail gate	access unit that is pre-assembled with guardrails and posts ready to mount into the scaffold frames using frame coupler pins
guyline	supporting cable used in the absence of tie-ins and secured at one end to the scaffold and anchored at the other end to the ground or some permanently fixed structure to help maintain the scaffold's strength and rigidity
half hitch	easy overhand knot used for hitching a rope to a pole, especially good for a right-angle pull; the beginning of many other knots

handballing or chaining	using the crew at various platform levels to pass materials for upper lifts or a scaffold from one person to the next
handline lifting	involves tying a rope line to the load and lifting it hand-over-hand to the working platform
harness	straps secured around an employee to distribute fall arrest forces at least over the thighs, shoulders, chest, and pelvis and that has the means to attached to other components of a PFAS
hitch	method of fastening a rope to an object; decreases rope strength approximately 25%
hoarding	tarps or other materials that cover a scaffold; enclosing a scaffold to control or contain contaminants or environmental factors
hoist	manual or power-operated mechanical device to raise or lower a suspended scaffold
hoist arm	member mounted directly to the scaffold framework for use with the gin wheel to raise and lower equipment and materials
horizontal diagonal clamp	equipment allows for changing the direction of a brace point or adding a point for securing
horizontal diagonal bracing	diagonal support placed across the horizontal plane at specified intervals and at tie-in points to increase strength and rigidity throughout the entire scaffold
horizontal lifeline	secured cable rigged between two fixed anchorage points on the same level to serve as a mobile fixture line for attaching a lanyard, lifeline, or retracting lifeline
indent	depression in a plank as a result of impact from falling tools on building materials
integral prefabricated access frame	scaffold frame specifically designed and constructed for use as ladder rungs
intended load	total weight on a scaffold component at any one time, including the live load, the dead load, and any other loads or forces that the assembly is engineered to carry
isometric view	a three-dimensional format showing a single view of an object usually from above and at a 30 degree angle

joist	one of a series of horizontal members used to support a floor, ceiling or roof
jurisdictional requirement	requirements such as building codes and regulations, including those related to occupational health and safety, legislated through the federal, provincial/territorial or municipal levels of government
knee-out brackets	reinforced side brackets designed for building around overhangs or protruding objects, extending the height of the scaffold, and supporting materials and additional tiers of scaffolding
knot	method of fastening a rope to an object; decreases rope strength approximately 50%
ladder	frame made with two side rails joined at regularly spaced intervals by crosspieces, or rungs, on which an erector may stand to perform work or use as steps to climb up and down
lanyard	harness component between the D-ring on a harness and the anchorage point
large-area scaffolds	pole scaffold, tube and clamp scaffold, systems scaffold, or fabricated frame scaffold erected over the entire work area
ledger brace	vertical/diagonal support on the narrow end of the scaffold that runs from the bottom of the outside post to the top of the inside post in a lift
leg load	total load applied or transmitted to a specific leg from surrounding scaffold platforms, equipment, or any other loading conditions
lift	one tier or level of a system scaffold
lip tie	positive connection that works very well with roof parapets or I-beams
live load	all moving or changing load factors that might be placed on a scaffold structure, such as people, tools, materials
load bearing wall	a wall that supports primary vertical loads
load placement	locating equipment and materials as close as possible to the assembly area
locking devices	used to attach couplers and frames as well as to fasten screw jacks, bases, casters, and frames together; include such devices are gravity pins, pigtails pins, frame rivet pins, thumb screws, and banana clips, also called boomerangs

longitudinal diagonal bracing	face or sway bracing that fixes in position parallel uprights or tiers of uprights in relation to one another along the face or length dimension
longitudinal or sway brace	support that extends along the face of the scaffold at approximately a 45 degree angle
maintenance	activities required for the proper functioning of power tools such as inspecting, oiling, tensioning of chains or belts, adjusting, dusting air filters, etc.
manually propelled mobile scaffold or rolling tower	welded frame scaffold with a rolling base that sits on locking casters
manufactured welded frame	support structure in a variety of sizes and styles to meet the requirements of different crafts and trades
mason frame	commonly used support structure that erectors can climb on
maximum intended or total scaffold load	total load of all people, equipment, tools, materials, transmitted loads, and other loads reasonably anticipated to be applied to a scaffold or its components at any one time, as determined by the scaffold manufacturer
metal platform	category of platforms that uses aluminum or steel as the primary structural member
mudsill	piece of material, usually wood, laid on the ground directly under a scaffold's vertical posts and baseplates to distribute load to the foundation surface
needles	tubes extending out beyond the regular framework to provide the primary support for a cantilever
No. 9 wire tie	common tie method in which the twisted wire draws the fastened part tightly to a secured anchor point
node point	strongest point on a vertical post; the intersection where bearers, runners, and braces connect to the vertical posts
O.C.	on centre
O.D.	outside diameter
open-end frame	support structure similar to the walk-thru frame for access but with no built-in ladder

orthographic projection	multiview drawing used to represent three-dimensional drawings accurately
orthostatic intolerance of orthostatic incompetence	gravity pulling blood into the lower legs where it accumulates but not pumping blood back to the heart and that creates loss of feeling in the extremities
outrigger beam or buttress	structural member of a supported scaffold that increases the base width of a scaffold to provide support and increased stability for the scaffold
outrigger frame	support structure that maximizes scaffold height because of its wider base for stability; may be used on manually propelled mobile scaffolds
outrigger or buttress	structural member of a supported scaffold that increases the base width of a scaffold to provide support and increased stability for the scaffold
outrigger or thrustout beam	structural member of a suspension scaffold or outrigger scaffold that extends the scaffold point of attachment to a point out and away from the structure or building to add support for the scaffold
parapet clamp	device clamped to a structural ledge to support a suspended scaffold
passive fall protection system	procedure or equipment that does not rely on the user to take any special action to be protected from a fall
peening or corrosion or flattening	that causes loss of more than one-third of the original diameter of the outside wires
pendulum effect	swing arc resulting when the user moves too far away horizontally from the anchorage point
personal fall arrest system (PFAS)	procedure or equipment that stops the user in a fall and consists of an anchorage point, connectors, and body harness and may include a lanyard, a deceleration device, a lifeline, or a suitable combination of these
personal protective equipment (PPE)	gear worn or used to minimize or prevent injury from exposure to unsanitary conditions, hazardous work, or working conditions
pier	a foundation which distributes the weight of a column
plank	family of platforms up to 12" wide and usually designed to be supported at lengths of up to 10' - 0"
platform weight/load	weight of the platform itself; pounds per square foot

point load	point or place on the scaffold platform where the weight of the load is most concentrated and deflection is the greatest
post or leg or standard	vertical member of the scaffold that supports the load and provides a firm point for lateral attachment
powder-actuated tool	device that drives fasteners by means of an explosive charge
prefabricated rack	support unit built with tubes and clamps and used as a layout framework or measuring device for making up large numbers of identically sized bearers with their clamps
print	working drawing that lays out a detailed plan about how a building should be constructed
pulley	wheel with a grooved rim that carries a rope or chain and turns in a frame; used for raising or lowering materials and equipment from a scaffold platform
putlogs	also known as bridges, trusses, or trestles specially braced scaffold components used to support a scaffold or work platform and bridge to areas where scaffolding cannot be used
qualified person	means, in respect of a specified duty, a person who, because of their knowledge, training and experience, is qualified to perform that duty safely and properly
racking	resulting condition after a scaffold (usually a mobile scaffold) is forced out of its square or rectangular footprint, which reduces its minimum base dimension causing it to lose stability
rafter	one of a series of structural members of a roof designed to support roof loads
raker tubes	solid support tubes installed with right-angle clamps
rated capacity	manufacturer's specified maximum load to be applied to a scaffold or scaffold component
rated load	manufacturer's recommended design load
reef knot	often used to join two ropes of the same diameter
retractable or self-retractable lifeline	portable, self-contained device that attaches to an anchorage point above the work area, acting like an automatic tensioned lanyard and playing out of the device as distance increases and retracting as distance decreases

reveal tie	friction connection using a right-angle clamp to attach a tie tube to one end of a tube extended across the inside of an opening being held in place by the friction of a baseplate and a screw jack, or to attach to the other end of the extended tube out at the scaffold
right regular lay	wire rope having the twist of the wire in the strand going the opposite direction to the twist of the strand
right-angle clamp	fastener designed to join tubes at a 90 degree angle when secured with a bolt and nut, or with a wedge
rip-stitch lanyard	40" section of nylon web material sewn together that tears open on impact
rise	vertical measurement on stairs, ramps and roofs
riser	upright portion on the front of a step on a stairway or stair-type ladder
rolling tower scaffold	manually propelled, multi-tiered supported scaffold with a rolling base
rollout	snap hook gate unlatching from the harness or anchor when part of the slack lanyard, or lifeline hits the gate during a fall
rope	strong cord made of strands of fibers and wire that are twisted or braided together
rope clip	bolt-on clip used to form an eye in wire rope, or to attach wire rope to equipment
rope grab or slider	attachment device that connects the lanyard to the lifeline to hold the rope, especially during a fall
run	horizontal measurement on stairs, ramps and roofs
runner or ledger	lengthwise horizontal spacing or bracing member which connects and spaces the legs and supports the bearers on a tube and clamp scaffold
safety factor	margin required by safety regulations to prevent unforeseen scaffold overloads or collapse or failure of a component
saw kerf	saw cut through a member that continues into a scaffold plank
scaffold grade	approval rating assigned to wood planks that passes visual inspection and load testing
scaffold hitch	knot used for suspending a scaffold plank which prevents tilting and allows the plank to remain in a horizontal position

screening or mesh	vertical barrier used for fall protection or placed overhead to protect users from falling objects
screw jack	device used with baseplates/casters of scaffold legs to adjust and level the scaffold
secondary brake or locking pawl	safety device that engages automatically when a host experiences an instantaneous change in momentum or an accelerated, over-speed episode
shackle or clevis	U-shaped fitting that makes connections between cables and support devices
shake	lengthwise separation of wood between the rings or through the pith
sheet bend or carrick bend	strong, secure knot that can be used to join two ropes of different construction
shock-absorbing lanyard	manufactured, short, flexible strap that connects a user's body harness either to an anchorage point, or to a grabbing device on a lifeline and rips apart when activated during a fall to absorb some of the impact
shoring	describes the process of supporting a structure in order to prevent collapse so that construction can continue; refers to the material used in the process to support a structure; during excavation, shoring systems provide safety for workers in a trench and speeds up excavation
side bracket	designed for personnel use only, this component extends the work deck out beyond the basic scaffold framework
sidewalk canopy frame	support structure that allows the public to walk under a scaffold
site layout	location of primary building components on the building site via construction drawing interpretation in relation to property lines
square	having two sides that are at right angles (90 degrees to each other)
stage	family of platforms with widths ranging from 12" to 32" and lengths greater than 10'-0"
stair units	often used in place of ladder assemblies to access the work platforms of system scaffolds
stall load	force that stops the prime-mover of a power-operated hoist or the point at which the power to the prime-mover is automatically disconnected

starter collar	a short post with a set of system rings, cups, or rosettes attached
sticker	structure for holding planks while they dry out
stirrups or suspension brackets	main support brackets constructed of aluminum or steel used at each end of the stage and to which lifting device are normally attached
stud	one of a series of vertical structural members used as support in walls and partitions
supported scaffold	platform created from brackets, poles, frames, etc., and made stable with the use of tie-ins, guylines, etc.
suspended scaffold or swing scaffold	platform supported by wire ropes or other non-rigid means and hung from an overhead structure
suspension trauma	medical condition caused when a user is suspended in a harness after a fall
swing stage	means a work platform that is raised and lowered by manual or powered hoisting equipment, supported by 2 or more suspension lines
system scaffold	scaffold that consists of posts with fixed connection points that accept runners, bearers, and diagonals
system side bracket	single engineered brace that combines a needle bearer, a raker, and a raker brace into welded unit
temporary structure	any structure erected during construction that is removed upon completion of the project
tension raker bracing	structural diagonal scaffold members, always under tension, that support cantilevered platforms, bridges, and putlogs from above
thimble	metal fitting placed inside of the eye of a wire rope to protect the eye
through tie	positive connection that clamps tubes to the inside and outside faces of wall openings
tieback	steel rope used to anchor the suspended scaffold back to the structure it is resting on
tie-in or tie	stabilizing device used between the scaffold framework and an adjoining building or structure to increase lateral strength and rigidity
tiers or lifts	any one of the given levels on the scaffold

timber hitch	knot used for fastening rope to posts or hoisting planks, timbers, tubes, and other cylindrical materials
toeboard	baseboard around the edge of a scaffold platform to help prevent objects, tools, and materials from falling off and injuring employees below
transverse cross bracing	modified use of ledger bracing consisting of two ledger braces installed opposing each other to form an X across the width of the scaffold
tread	horizontal portion on the top of a step on a stairway or stair-type ladder
truss	specially braced scaffold component used to support a work platform and bridge areas
tube and clamp or coupler scaffold	system consisting of various lengths of tubes that serve as posts, runners, bearers, braces, and ties fastened together with right-angle and swivel clamps to form an infinitely adjustable scaffold framework
tube to shoring tie	friction connection, similar to the reveal tie, that attaches to a wedged shoring post at a right angle with a right-angle clamp
tube	basic component part of a tube and clamp scaffold that can be used as a post, bearer, runner, brace, guardrail, or even a tie
ultimate load	also known as destructive load or failure load amount, which is the amount of weight that causes structural failure when placed on a scaffold structure during testing
uniform distributed load (UDL)	load spread evenly over a substantial portion or over the entire area of the platform
uplift	wind moving across the deck of a scaffold, causing planks to lift up and blow off if not secured; principle similar to the same way an airplane wing creates lift
vertical lifeline or dropline	rope extending from an independent anchorage point above the user down to the lanyard and that attached to the dropline with a grabbing device
vertical post	vertical member of the scaffold that supports the load and is a firm point for lateral attachment
walk-thru frame	allows workers to move through the frame from scaffold bay to scaffold bay; usually has access ladder built into the frame

wane	lack of bark or wood on a plank, except on eased edges, that makes the plank smaller than standard
welded frame scaffold	metal frame structure mostly made of pre-fabricated welded sections that consist of posts and horizontal bearers with intermediate cross members
wind load	force of the wind acting as a UDL on the exposed areas of a scaffold
wire rope	assembly of wires woven onto strands that are then woven around a core
working load	actual load such as material loads, live loads, wind loads, and equipment loads applied to the scaffold
work positioning system	combination of equipment that secures a user on an elevated vertical surface while preventing a fall of more than 2'-0" and that permits the user to use both hands freely
working span	center two-thirds of a plank where most of the load bearing activity occurs

CSA	Canadian Standards Association
ICI	Institutional commercial industrial
MSDS	Material safety data sheet
NBC	National Building Code
OH&S	Occupational Health and Safety
PPE	Personal protective equipment
VOC	Volatile organic compound
WLL	Working load limit
WHMIS	Workplace Hazardous Materials Information System

APPENDIX D**BLOCK AND TASK WEIGHTING**

BLOCK A	COMMON OCCUPATIONAL SKILLS	Provincial Average 60%
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Task 1 Uses and maintains tools and equipment. 18%

Task 2 Performs safety related activities. 17%

Task 3 Uses building materials. 11%

Task 4 Interprets construction documents. 38%

Task 5 Performs project related skills. 16%

BLOCK B	ERECTS TEMPORARY STRUCTURES	Provincial Average 40%
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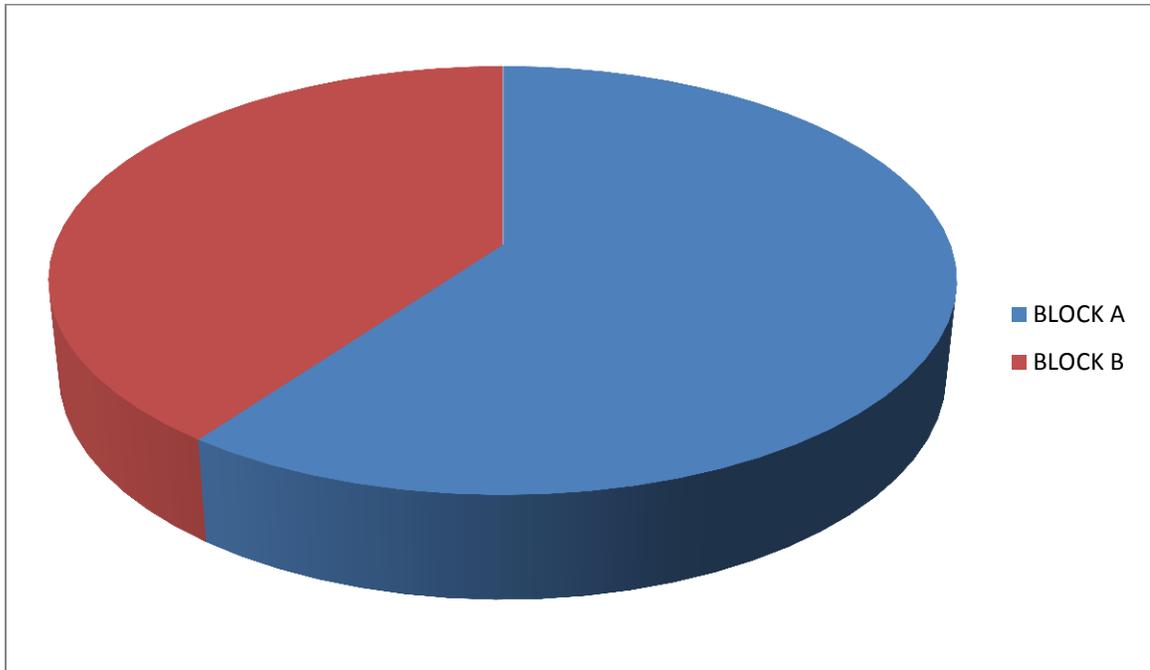
Task 6 Erects access structures. 65%

Task 7 Erects shoring and falsework. 10%

Task 8 Erects support structures. 10%

Task 9 Erects suspended work platforms. 10%

Task 10 Erects specialized safety structures. 5%



TITLES OF BLOCKS

- BLOCK A COMMON OCCUPATIONAL SKILLS
- BLOCK B ERECTS TEMPORARY STRUCTURES

*Average percentage of the total number of questions on a certification examination.

BLOCKS	TASKS	SUB-TASKS			
A – COMMON OCCUPATIONAL SKILLS	1. Uses and maintains tools and equipment.	1.01 Maintains hand, power and pneumatic tools.	1.02 Maintains stationary tools.	1.03 Uses layout equipment	1.04 Uses material handling, rigging and hoisting equipment.
	2. Performs safety related activities.	2.01 Uses personal protective equipment (PPE) and safety equipment.	2.02 Maintains safe work environment.		
	3. Uses building materials.	3.01 Uses fasteners, adhesives and connectors.	3.02 Uses structural materials.	3.03 Uses non-structural materials.	
	4. Interprets construction documents.	4.01 Interprets engineered drawings and specifications.	4.02 Applies codes regulations and standards.	4.03 Estimates materials.	4.04 Schedules work sequence.
	5. Performs project related skills.	5.01 Performs site layout.	5.02 Prepares site.	5.03 Communicates.	5.04 Erects hoarding and shelters.
	6. Erects access structures.	6.01 Lays out access structures.	6.02 Assembles access structures.	6.03 Maintains access structures.	6.04 Dismantles access structures.
		7. Erects shoring and falsework,	7.01 Lays out shoring and falsework.	7.02 Assembles shoring and falsework.	7.03 Maintains shoring and falsework.
B – Erects Temporary Structures					

BLOCKS

TASKS

SUB-TASKS

8. Erects support structures.

8.01 Lays out support structures.

8.02 Assembles support structures.

8.03 Maintains support structures.

8.04 Dismantles support structures.

9. Erects suspended work platforms.

9.01 Lays out work platforms.

9.02 Assembles work platforms.

9.03 Maintains work platforms.

9.04 Dismantles miscellaneous equipment.

10. Erects specialized safety structures.

10.01 Lays out specialized safety structures.

10.02 Assembles specialized safety structures.

10.03 Maintains specialized safety structures.

10.04 Dismantles specialized safety structures.