

GRADE 10 BUILDING CONSTRUCTION SCHEMES OF WORK FOR TERM 1

NAME OF THE TEACHER:.....

SCHOOL:..... YEAR:.....

Week	LSN	Strand	Sub-strand	Specific Learning Outcomes	Key Inquiry Question(s)	Learning Experiences	Learning Resources	Assessment Methods	Refl
1	1	1.0 Foundation of Building Construction	1.1 Introduction to Building Construction	By the end of the lesson, the learner should be able to outline the functions of a building in day-to-day life.	1. How are buildings classified? 2. Why are buildings important? ⁶	The learner is guided to brainstorm on the meaning of the term 'building' and discuss the functions of a building. ⁷	Visual aids, photographs, models of assorted buildings. ⁸	Oral questions, Observation schedule. ⁹	
	2			By the end of the lesson, the learner should be able to explain the historical development of buildings through ages.		The learner is guided to use print or digital media to search for information on the historical development of buildings (from caves to modern buildings). ¹⁰	Digital devices, charts, photographs. ¹¹	Written test, Checklist. ¹²	
	3			By the end of the lesson, the learner should be able to illustrate the basic components of a building to detail.		The learner is guided to use visual aids to discuss the components of a building and sketch a building showing its basic components (floor, wall, roof, door and window). ¹³	Drawing papers, pencils, visual aids. ¹⁴	Observation schedule. ¹⁵	

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	4			By the end of the lesson, the learner should be able to categorise buildings based on their use.		The learner is guided to use visual aids to discuss different types of buildings and use charts to list buildings based on their uses. ¹⁶	Charts, visual aids. ¹⁷	Checklist. ¹⁸	
	5			By the end of the lesson, the learner should be able to observe buildings in the locality.		The learner is guided to take a walk in the locality to observe buildings used for different purposes (commercial, social and residential). ¹⁹	Local environment, notebook. ²⁰	Observation schedule. ²¹	
	6			By the end of the lesson, the learner should be able to appreciate the importance of buildings in the locality.		The learner is guided to prepare a portfolio of different types of buildings. ²²	Portfolio materials. ²³	Portfolio assessment. ²⁴	
2	1		1.2 Site Preparation	By the end of the lesson, the learner should be able to explain factors to consider when selecting a site for a given building.	1. Why are site preliminaries important in building construction? 2. Why is it important to observe safety when preparing a building site? ²⁵	The learner is guided to use the building code to discuss the factors to consider when selecting a building construction site. ²⁶	Building code, charts. ²⁷	Oral questions. ²⁸	

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	2			By the end of the lesson, the learner should be able to describe the safety measures to observe in site preparation.		The learner is guided to brainstorm on appropriate safety measures to observe when preparing a site. ²⁹	Personal protective equipment (PPEs), charts. ³⁰	Observation schedule. ³¹	
	3			By the end of the lesson, the learner should be able to define terms used in site preparation.		The learner is guided to use print or digital media to search for the meaning of the terms used in site preparation (site selection, site clearing and site levelling). ³²	Digital devices, reference books. ³³	Written test. ³⁴	
	4			By the end of the lesson, the learner should be able to clear a site for construction using appropriate hand tools.		The learner is guided to use hand tools and equipment to carry out site clearing (slasher, panga, jembe, rake, spade, axe, wheelbarrow). ³⁵	Jembe, panga, slashers, rakes. ³⁶	Practical work. ³⁷	
	5			By the end of the lesson, the learner should be able to strip off the top soil of a building site.		The learner is guided to use appropriate hand tools and equipment to carry out site stripping (jembe, panga, axe, mattock, spade, wheelbarrow). ³⁸	Mattocks, spades, wheelbarrows. ³⁹	Practical work, Observation schedule. ⁴⁰	
	6			By the end of the lesson, the learner should be able to		The learner is guided to continue practicing site	Mattocks, spades,	Practical work. ⁴³	

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				strip off the top soil of a building site (Practice).		stripping using appropriate tools. ⁴¹	wheelbarrows. ⁴²		
3	1			By the end of the lesson, the learner should be able to illustrate methods of levelling a site for building construction.		The learner is guided to use visual aids to discuss the methods of levelling a building site (cut, fill, cut and fill). ⁴⁴	Visual aids, charts. ⁴⁵	Written test. ⁴⁶	
	2			By the end of the lesson, the learner should be able to sketch the methods of levelling a site.		The learner is guided to sketch the methods of levelling a site. ⁴⁷	Drawing papers, pencils. ⁴⁸	Rubrics. ⁴⁹	
	3			By the end of the lesson, the learner should be able to perform site levelling (Cut).		The learner is guided to perform site levelling using the cut method. ⁵⁰	Spades, wheelbarrows, levelling tools. ⁵¹	Practical work. ⁵²	
	4			By the end of the lesson, the learner should be able to perform site levelling (Fill).		The learner is guided to perform site levelling using the fill method. ⁵³	Spades, wheelbarrows, levelling tools. ⁵⁴	Practical work. ⁵⁵	
	5			By the end of the lesson, the learner should be able to perform site levelling (Cut and Fill).		The learner is guided to perform site levelling using the cut and fill method. ⁵⁶	Spades, wheelbarrows, levelling tools. ⁵⁷	Practical work. ⁵⁸	
	6			By the end of the lesson, the learner should be able to appreciate the importance of proper site		The learner is guided to conduct a debate on the importance of proper site selection and preparation. ⁵⁹	Debate materials. ⁶⁰	Checklist. ⁶¹	

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				selection and preparation.					
4	1	2.0 Related Drawing	2.1 Isometric Drawing	By the end of the lesson, the learner should be able to explain the characteristics of isometric drawings.	Why is isometric drawing important in building construction? ⁶²	The learner is guided to use visual aids to discuss characteristics of isometric drawings. ⁶³	Drawing papers, pencils, visual aids. ⁶⁴	Observation schedule. ⁶⁵	
	2			By the end of the lesson, the learner should be able to draw a shaped block in isometric projection (Basic).		The learner is guided to discuss the steps to follow when drawing shaped blocks in isometric projection and use drawing instruments to construct shaped blocks. ⁶⁶	Drawing set, T-square, Squares, Drawing papers. ⁶⁷	Practical work. ⁶⁸	
	3			By the end of the lesson, the learner should be able to draw a shaped block in isometric projection (Intermediate).		The learner is guided to use drawing instruments to construct shaped blocks in isometric projection. ⁶⁹	Drawing set, T-square, Squares, Drawing papers. ⁷⁰	Practical work. ⁷¹	
	4			By the end of the lesson, the learner should be able to draw a shaped block in isometric projection (Complex).		The learner is guided to use drawing instruments to construct shaped blocks in isometric projection. ⁷²	Drawing set, T-square, Squares, Drawing papers. ⁷³	Practical work. ⁷⁴	
	5			By the end of the lesson, the learner should be able to dimension shaped		The learner is guided to use print or digital media to discuss the	Digital devices, reference materials. ⁷⁶	Written test. ⁷⁷	

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				blocks drawn in isometric projection.		procedure for dimensioning isometric drawings. ⁷⁵			
	6			By the end of the lesson, the learner should be able to apply dimensioning to isometric drawings.		The learner is guided to dimension blocks drawn in isometric projection. ⁷⁸	Drawing instruments. ⁷⁹	Practical work. ⁸⁰	
5	1			By the end of the lesson, the learner should be able to appreciate the importance of isometric projection in construction.		The learner is guided to make a presentation on the importance of isometric projection in construction. ⁸¹	Presentation materials. ⁸²	Portfolio. ⁸³	
	2			By the end of the lesson, the learner should be able to consolidate isometric drawing skills.		The learner is guided to complete a portfolio of isometric drawings. ⁸⁴	Portfolio materials. ⁸⁵	Portfolio. ⁸⁶	
	3		2.2 Computer Aided Drawing	By the end of the lesson, the learner should be able to identify types of CAD software used in building drawing.	How important is CAD in building construction? ⁸⁷	The learner is guided to engage a resource person on the types of CAD software used in building drawing. ⁸⁸	Computers, CAD software. ⁸⁹	Oral questions. ⁹⁰	
	4			By the end of the lesson, the learner should be able to set up a CAD drawing		The learner is guided to engage the resource person on the steps to follow when setting	Computers, CAD software. ⁹²	Observation schedules. ⁹³	

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				environment on a digital device.		up a CAD drawing environment. ⁹¹			
	5			By the end of the lesson, the learner should be able to practice setting up a CAD environment.		The learner is guided to practice how to set up a CAD drawing environment. ⁹⁴	Computers, CAD software. ⁹⁵	Practical work. ⁹⁶	
	6			By the end of the lesson, the learner should be able to understand drawing plane shapes using CAD.		The learner is guided to engage the resource person on the steps to follow when using CAD to draw plane shapes. ⁹⁷	Computers, CAD software. ⁹⁸	Observation schedules. ⁹⁹	
6	1			By the end of the lesson, the learner should be able to draw plane shapes using CAD software (Basic Shapes).		The learner is guided to develop plane shapes using a CAD software. ¹⁰⁰	Computers, CAD software. ¹⁰¹	Practical work. ¹⁰²	
	2			By the end of the lesson, the learner should be able to draw plane shapes using CAD software (Complex Shapes).		The learner is guided to develop plane shapes using a CAD software. ¹⁰³	Computers, CAD software. ¹⁰⁴	Practical work. ¹⁰⁵	
	3			By the end of the lesson, the learner should be able to draw plane shapes using CAD software (Practice).		The learner is guided to continue developing plane shapes using a CAD software. ¹⁰⁶	Computers, CAD software. ¹⁰⁷	Practical work. ¹⁰⁸	

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	4			By the end of the lesson, the learner should be able to draw plane shapes using CAD software (Practice). ¹⁰⁹		The learner is guided to continue developing plane shapes using a CAD software. ¹⁰⁹	Computers, CAD software. ¹¹⁰	Practical work. ¹¹¹	
	5			By the end of the lesson, the learner should be able to appreciate the importance of CAD in building drawing.		The learner is guided to create an e-portfolio of plane shapes made using CAD software. ¹¹²	Computers, e-portfolio platform. ¹¹³	Portfolios. ¹¹⁴	
	6			By the end of the lesson, the learner should be able to finalize the CAD e-portfolio.		The learner is guided to finalize and present their e-portfolio of plane shapes. ¹¹⁵	Computers. ¹¹⁶	Portfolios. ¹¹⁷	
7	1	3.0 Building Construction Processes	3.1 Concreting	By the end of the lesson, the learner should be able to explain the constituent materials for concrete.	How is concrete essential in building construction? ¹¹⁸	The learner is guided to brainstorm the meaning of the term 'concrete' and use print or digital media to discuss the constituent materials for concrete (cement, sand, coarse aggregates and water). ¹¹⁹	Ballast, lime, wheelbarrow. ¹²⁰	Observation Schedule. ¹²¹	
	2			By the end of the lesson, the learner should be able to select hand tools and equipment		The learner is guided to use visual aids to discuss hand tools and equipment	Spade, tamper boards. ¹²³	Checklist. ¹²⁴	

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				used for concrete production.		used for concrete production. ¹²²			
	3			By the end of the lesson, the learner should be able to describe the process of producing concrete (Batching).		The learner is guided to discuss the steps to follow when making concrete (focusing on batching). ¹²⁵	Digital devices, reference books. ¹²⁶	Written test. ¹²⁷	
	4			By the end of the lesson, the learner should be able to describe the process of producing concrete (Mixing).		The learner is guided to discuss the steps to follow when making concrete (focusing on mixing). ¹²⁸	Digital devices, reference books. ¹²⁹	Written test. ¹³⁰	
	5			By the end of the lesson, the learner should be able to describe the process of producing concrete (Transporting and Placing).		The learner is guided to discuss the steps to follow when making concrete (focusing on transporting and placing). ¹³¹	Digital devices, reference books. ¹³²	Written test. ¹³³	
	6			By the end of the lesson, the learner should be able to describe the process of producing concrete (Compacting and Curing).		The learner is guided to discuss the steps to follow when making concrete (focusing on compacting and curing). ¹³⁴	Digital devices, reference books. ¹³⁵	Written test. ¹³⁶	
8	1			By the end of the lesson, the learner should be able to explain safety		The learner is guided to discuss safety precautions to observe when concreting. ¹³⁷	PPEs, Safety charts. ¹³⁸	Oral questions. ¹³⁹	

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				precautions when concreting.					
	2			By the end of the lesson, the learner should be able to perform tasks for producing concrete (Batching).		The learner is guided to use appropriate tools and equipment to perform batching of concrete materials. ¹⁴⁰	Gauge boxes, shovel, materials. ¹⁴¹	Practical work. ¹⁴²	
	3			By the end of the lesson, the learner should be able to perform tasks for producing concrete (Mixing).		The learner is guided to use appropriate tools and equipment to perform mixing of concrete. ¹⁴³	Shovel, wheelbarrow, mixing platform. ¹⁴⁴	Practical work. ¹⁴⁵	
	4			By the end of the lesson, the learner should be able to perform tasks for producing concrete (Mixing Practice).		The learner is guided to continue practicing mixing concrete to correct consistency. ¹⁴⁶	Shovel, wheelbarrow, mixing platform. ¹⁴⁷	Practical work. ¹⁴⁸	
	5			By the end of the lesson, the learner should be able to perform tasks for producing concrete (Transporting and Placing).		The learner is guided to use appropriate tools and equipment to transport and place concrete. ¹⁴⁹	Wheelbarrows, pans, shovels. ¹⁵⁰	Practical work. ¹⁵¹	
	6			By the end of the lesson, the learner should be able to perform tasks for producing concrete (Compacting).		The learner is guided to use appropriate tools and equipment to compact concrete. ¹⁵²	Tamper boards, rod. ¹⁵³	Practical work. ¹⁵⁴	
9	1			By the end of the lesson, the learner should be able to		The learner is guided to use appropriate tools	Water, hessian cloth/sand. ¹⁵⁶	Practical work. ¹⁵⁷	

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				perform tasks for producing concrete (Curing).		and methods to cure concrete. ¹⁵⁵			
	2			By the end of the lesson, the learner should be able to perform tasks for producing concrete (Integrated Task).		The learner is guided to perform the complete cycle of concrete production in a small project. ¹⁵⁸	All concreting tools. ¹⁵⁹	Project. ¹⁶⁰	
	3			By the end of the lesson, the learner should be able to perform tasks for producing concrete (Integrated Task).		The learner is guided to continue the complete cycle of concrete production in a small project. ¹⁶¹	All concreting tools. ¹⁶²	Project. ¹⁶³	
	4			By the end of the lesson, the learner should be able to perform tasks for producing concrete (Integrated Task).		The learner is guided to continue the complete cycle of concrete production in a small project. ¹⁶⁴	All concreting tools. ¹⁶⁵	Project. ¹⁶⁶	
	5			By the end of the lesson, the learner should be able to perform tasks for producing concrete (Integrated Task).		The learner is guided to continue the complete cycle of concrete production in a small project. ¹⁶⁷	All concreting tools. ¹⁶⁸	Project. ¹⁶⁹	
	6			By the end of the lesson, the learner should be able to perform tasks for producing concrete (Integrated Task).		The learner is guided to complete and review the concrete production project. ¹⁷⁰	All concreting tools. ¹⁷¹	Project. ¹⁷²	
10	1			By the end of the lesson, the learner should be able to appreciate the		The learner is guided to make presentations on the importance of	Presentation materials. ¹⁷⁴	Rubrics. ¹⁷⁵	

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				importance of concreting in building construction.		concreting in building construction. ¹⁷³			
	2		3.2 Foundations	By the end of the lesson, the learner should be able to explain the functions of a foundation in a building.	Why is a foundation important to a building? ¹⁷⁶	The learner is guided to brainstorm on the functions of a foundation in a building. ¹⁷⁷	Working drawings. ¹⁷⁸	Oral questions. ¹⁷⁹	
	3			By the end of the lesson, the learner should be able to discuss the functional requirements of a foundation in a building.		The learner is guided to use the building code to discuss the functional requirements of a foundation in a building. ¹⁸⁰	Building code. ¹⁸¹	Checklist. ¹⁸²	
	4			By the end of the lesson, the learner should be able to describe types of foundations used in building construction.		The learner is guided to use visual aids to discuss types of foundations used in building construction (strip, pad, raft). ¹⁸³	Visual aids, charts. ¹⁸⁴	Written test. ¹⁸⁵	
	5			By the end of the lesson, the learner should be able to sketch different types of shallow foundations.		The learner is guided to use appropriate drawing tools to sketch different types of shallow foundations. ¹⁸⁶	Drawing tools. ¹⁸⁷	Practical work. ¹⁸⁸	
	6			By the end of the lesson, the learner should be able to interpret a strip		The learner is guided to interpret a strip foundation	Working drawings. ¹⁹⁰	Observation schedule. ¹⁹¹	

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				foundation plan for a building.		plan for a building. ¹⁸⁹			
11	1			By the end of the lesson, the learner should be able to discuss safety measures when constructing a strip foundation.		The learner is guided to discuss appropriate safety measures to observe when constructing a strip foundation. ¹⁹²	Safety charts. ¹⁹³	Oral questions. ¹⁹⁴	
	2			By the end of the lesson, the learner should be able to set out a strip foundation from working drawings (Methodology).		The learner is guided to use appropriate hand tools and equipment to set out a strip foundation (3-4-5, builder's square and trammel methods). ¹⁹⁵	Plumb bob, Builders line, Pegs, Builders square. ¹⁹⁶	Practical work. ¹⁹⁷	
	3			By the end of the lesson, the learner should be able to set out a strip foundation from working drawings (Practice).		The learner is guided to practice setting out using the 3-4-5 method. ¹⁹⁸	Tape measure, Pegs, Lines. ¹⁹⁹	Practical work. ²⁰⁰	
	4			By the end of the lesson, the learner should be able to set out a strip foundation from working drawings (Practice).		The learner is guided to practice setting out using the builder's square method. ²⁰¹	Builders square, Pegs, Lines. ²⁰²	Practical work. ²⁰³	
	5			By the end of the lesson, the learner should be able to set out a strip foundation from		The learner is guided to practice setting out using the trammel method. ²⁰⁴	Trammel, Pegs, Lines. ²⁰⁵	Practical work. ²⁰⁶	

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				working drawings (Practice).					
	6			By the end of the lesson, the learner should be able to prepare trenches for construction of a strip foundation (Excavation).		The learner is guided to use appropriate hand tools to prepare a trench for laying a strip foundation (excavate). ²⁰⁷	Jembe, spade, mattock. ²⁰⁸	Practical work. ²⁰⁹	
12	1			By the end of the lesson, the learner should be able to prepare trenches for construction of a strip foundation (Aligning).		The learner is guided to use appropriate hand tools to prepare a trench (align the sides). ²¹⁰	Spade, line. ²¹¹	Practical work. ²¹²	
	2			By the end of the lesson, the learner should be able to prepare trenches for construction of a strip foundation (Levelling).		The learner is guided to use appropriate hand tools to prepare a trench (level and compact the base). ²¹³	Rammer, level, spade. ²¹⁴	Practical work. ²¹⁵	
	3			By the end of the lesson, the learner should be able to lay a strip foundation (Setting thickness).		The learner is guided to use appropriate hand tools to lay a strip foundation (set the thickness of the concrete strip). ²¹⁶	Pegs, level. ²¹⁷	Practical work. ²¹⁸	
	4			By the end of the lesson, the learner should be able to lay a strip foundation (Preparing concrete).		The learner is guided to use appropriate hand tools to lay a strip foundation (prepare concrete material). ²¹⁹	Concreting tools. ²²⁰	Practical work. ²²¹	

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	5			By the end of the lesson, the learner should be able to lay a strip foundation (Placing).		The learner is guided to use appropriate hand tools to lay a strip foundation (place concrete). ²²²	Wheelbarrow, spade. ²²³	Practical work. ²²⁴	
	6			By the end of the lesson, the learner should be able to lay a strip foundation (Compacting and Curing).		The learner is guided to use appropriate hand tools to lay a strip foundation (compact concrete, cure concrete). ²²⁵	Rammer, water. ²²⁶	Practical work. ²²⁷	
13	1			By the end of the lesson, the learner should be able to appreciate the importance of foundations in a building.		The learner is guided to make a presentation on the importance of a foundation in a building. ²²⁸	Presentation materials. ²²⁹	Rubrics. ²³⁰	
	2			By the end of the lesson, the learner should be able to consolidate foundation skills.		The learner is guided to review practical skills learned in setting out and trench preparation. ²³¹	Tools. ²³²	Practical assessment. ²³³	
	3			By the end of the lesson, the learner should be able to demonstrate understanding of Term 1 content.		End of term assessment covering Strand 1, 2 and 3.1-3.2.	Assessment papers.	Written/Practical test.	
	4			By the end of the lesson, the learner should be able to demonstrate		End of term assessment covering Strand 1, 2 and 3.1-3.2.	Assessment papers.	Written/Practical test.	

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				understanding of Term 1 content.					
	5			By the end of the lesson, the learner should be able to demonstrate understanding of Term 1 content.		End of term assessment covering Strand 1, 2 and 3.1-3.2.	Assessment papers.	Written/Practical test.	
	6			By the end of the lesson, the learner should be able to reflect on Term 1 performance.		Closing of the term and reflection on performance.			