



KENYA INSTITUTE OF CURRICULUM DEVELOPMENT
A Skilled and Ethical Society

SENIOR SCHOOL CURRICULUM DESIGN

BUILDING CONSTRUCTION

GRADE 11

OCTOBER, 2025

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NATIONAL GOALS OF EDUCATION

Education in Kenya should:

1. Foster nationalism and patriotism and promote national unity.

Kenya's people belong to different communities, races and religions, but these differences need not divide them. They must be able to live and interact as Kenyans. It is a paramount duty of education to help young people acquire this sense of nationhood by resolving conflicts and promoting positive attitudes of mutual respect which enable them to live together in harmony and foster patriotism in order to make a positive contribution to the life of the nation.

2. Promote the social, economic, technological and industrial needs for national development.

Education should prepare the youth of the country to play an effective and productive role in the life of the nation.

a) Social Needs

Education in Kenya must prepare children for changes in attitudes and relationships which are necessary for the smooth progress of a rapidly developing modern economy. There is bound to be a silent social revolution following in the wake of rapid modernization. Education should assist our youth to adapt to this change.

b) Economic Needs

Education in Kenya should produce citizens with the skills, knowledge, expertise and personal qualities that are required to support a growing economy. Kenya is building up a modern and independent economy which needs an adequate and relevant domestic workforce.

c) Technological and Industrial Needs

Education in Kenya should provide learners with the necessary skills and attitudes for industrial development. Kenya recognizes the rapid industrial and technological changes taking place, especially in the developed world. We can only be part of this development if our education system is deliberately focused on the knowledge, skills and attitudes that will prepare our young people for these changing global trends.

3. Promote individual development and self-fulfilment

Education should provide opportunities for the fullest development of individual talents and personality. It should help children to develop their potential interests and abilities. A vital aspect of individual development is the building of character.

4. Promote sound moral and religious values.

Education should provide for the development of knowledge, skills and attitudes that will enhance the acquisition of sound moral values and help children to grow up into self-disciplined, self-reliant and integrated citizens.

5. Promote social equity and responsibility.

Education should promote social equality and foster a sense of social responsibility within an education system which provides equal educational opportunities for all. It should give all children varied and challenging opportunities for collective activities and corporate social service irrespective of gender, ability or geographical environment.

6. Promote respect for and development of Kenya's rich and varied cultures.

Education should instill in the youth of Kenya an understanding of past and present cultures and their valid place in contemporary society. Children should be able to blend the best of traditional values with the changing requirements that must follow rapid development in order to build a stable and modern society.

7. Promote international consciousness and foster positive attitudes towards other nations.

Kenya is part of the international community. It is part of the complicated and interdependent network of peoples and nations. Education should therefore lead the youth of the country to accept membership of this international community with all the obligations and responsibilities, rights and benefits that this membership entails.

8. Promote positive attitudes towards good health and environmental protection.

Education should inculcate in young people the value of good health in order for them to avoid indulging in activities that will lead to physical or mental ill health. It should foster positive attitudes towards environmental development and conservation. It should lead the youth of Kenya to appreciate the need for a healthy environment.

THE SENIOR SCHOOL IN THE COMPETENCY BASED CURRICULUM

Senior School is the fourth level of Basic Education in the Competency Based Curriculum (CBC) that the learner shall proceed to after the Pre-Primary School, Primary School and Junior School levels. The essence of Senior School is to offer learners a pre-tertiary/university/ pre-career experience in which the learners have an opportunity to choose pathways, tracks and subjects where they shall have demonstrated interest and/or potential at the earlier levels. Senior School comprises three years of education for learners generally in the 16-18 years age bracket and lays the foundation for further education and training at the tertiary level and the world of work. In the CBC vision, learners exiting this level are expected to be *engaged, empowered and ethical citizens* ready to participate in the socio-economic development of the nation.

At this level, the learner shall take seven (7) learning areas as recommended by the *Presidential Working Party on Educational Reforms* (PWPER, 2023). These shall comprise **four compulsory learning areas** namely: English, Kiswahili, Essential Mathematics/Core Mathematics and Community Service Learning (CSL). Learners will choose between Core Mathematics (for learners pursuing the Science Technology Engineering and Mathematics Pathway) and Essential Mathematics (for learners pursuing the non-STEM pathways). The learner will select three learning areas depending on their career choice, aptitude, interest and personality with guidance by the Senior School career teacher.

LEARNING OUTCOMES FOR SENIOR SCHOOL

By the end of Senior School, the learner should be able to:

1. communicate effectively and utilise information and communication technology across varied contexts,
2. apply mathematical, logical and critical thinking skills for problem solving,
3. apply basic research and scientific skills to manipulate the environment and solve problems,
4. exploit individual talents for leisure, self-fulfilment, career growth, further education and training,
5. uphold national, moral and religious values and apply them in day-to-day life,
6. apply and promote health care strategies in day-to-day life,
7. protect, preserve and improve the environment for sustainability,
8. demonstrate active local and global citizenship for harmonious co-existence,
9. demonstrate appreciation of diversity in people and cultures,
10. manage pertinent and contemporary issues responsibly.

TABLE 1: LIST OF SUBJECTS AT SENIOR SCHOOL

Core Subjects	Arts & Sports Science	Social Sciences	Science, Technology, Engineering & Mathematics (STEM)
1. English 2. Kiswahili/KSL 3. Core Mathematics/ Essential Mathematics 4. Community Service Learning (CSL)	5. Sports and Recreation 6. Music and Dance 7. Theatre and Film 8. Fine Arts	9. Literature in English 10. Indigenous Languages 11. Fasihi ya Kiswahili 12. Sign Language 13. Arabic 14. French 15. German 16. Mandarin Chinese 17. Christian Religious Education 18. Islamic Religious Education 19. Hindu Religious Education 20. Business Studies 21. History and Citizenship 22. Geography	23. Biology 24. Chemistry 25. Physics 26. General Science 27. Agriculture 28. Computer Studies 29. Home Science 30. Aviation 31. Building Construction 32. Electricity 33. Metalwork 34. Power Mechanics 35. Woodwork 36. Media Technology 37. Marine and Fisheries Technology

Note:

- Physical Education (PE) and Information Communication and Technology (ICT) will be offered to all learners to facilitate learning, enjoyment and acquisition of life skills.
- Every school shall offer Pastoral/Religious Programme of Instruction (P/RPI) to enhance moral, spiritual and character development of the learners.
- There shall be one (1) lesson for personal or group study to deepen knowledge and enhance skills in areas of choice by the learners.

Table 2 provides guidelines on distribution of lessons at Senior School.

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TABLE 2: LESSON DISTRIBUTION AT SENIOR SCHOOL

Subjects	No of Lessons Per Week (40 minutes per lesson)
Core Subjects 4	
1. English	5
2. Kiswahili	5
3. Essential Mathematics/Core Mathematics	5
4. Community Service Learning	3
Elective Subjects	
5. Elective 1	5
6. Elective 2	5
7. Elective 3	5
* Physical Education	3
* ICT Skills	2
*PPI	1
* Learner Personal /Group Study	1
Total Number of Lessons	40

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ESSENCE STATEMENT

Building Construction is a Technical and Engineering Studies subject at Senior School designed to equip learners with knowledge, skills and attitudes in building construction processes, especially at the operative level. It builds on competencies acquired in Pre-Technical Studies at Junior School, and it is anchored on *Sessional Papers No. 1 of 2005* and *No. 1 of 2019*, which recommended the promotion of technical and vocational education with an emphasis on Science, Technology and Innovation (ST&I) in the school curriculum.

The subject prepares learners to acquire knowledge, develop technical skills and form positive attitudes in masonry, plumbing, concreting and other building construction trades through project work, trade practice, experiential learning, and other transformative teaching methods.

The subject has been designed in such a way to cater for the needs of students who wish to further their education as well as those who wish to exit Senior School to the world of work. For students who wish to go on to higher levels of education and training in Technical Universities, National Polytechnics, Technical and Vocational Colleges or Vocational Training Centers, it provides a strong foundation for careers in civil engineering, building and construction, architecture, quantity surveying, and related fields. Students who wish to terminate their course at Senior School level will have acquired sufficient competencies in building resources, building construction processes, and financial management that will enable them to get into the world of work.

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GENERAL SUBJECT LEARNING OUTCOMES

By the end of the senior school, the learner should be able to:

1. Select a preferred career in building construction
2. Draw and interpret working drawings
3. Carry out masonry works
4. Carry out concreting works for simple buildings
5. Install and maintain plumbing systems
6. Provide for and observe safety on a building construction site
7. Care for and maintain construction plant, tools and equipment
8. Prepare quantities for simple building projects
9. Develop financial literacy for management of building construction projects

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SUMMARY OF STRANDS AND SUB STRANDS

Strands	Sub strands
1.0 Foundation of Building Construction	1.1 Construction Hand Power Tools
	1.2 Construction Plant
	1.3 Site Organisation
	1.4 Appropriate Technology in Building
2.0 Related Drawing	2.1 Orthographic Projection
	2.2 Computer Aided Drawing (CAD)
3.0 Building Construction Processes	3.1 Masonry Superstructure Walling
	3.2 Timber Superstructure Walling
	3.3 Wall Openings
	3.4 Scaffolding
	3.5 Roof Construction
	3.6 Doors
	3.7 Windows
4.0 Building Services	4.1 Domestic Water Supply
	4.2 Sanitary Appliances
	4.3 Drainage Systems
	4.4 Building Construction Project

STRAND 1.0: FOUNDATION OF BUILDING CONSTRUCTION

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
1.0 Foundation of Building Construction	1.1 Construction Hand Power Tools	By the end of the sub strand, the learner should be able to; a) identify hand power tools used in building construction, b) perform a construction task using hand power tools, c) care for and maintain hand power tools used in building works, d) appreciate the importance of hand power tools in construction works.	The learner is guided to; • use visual aids to discuss hand power tools used in construction works (<i>drills, grinders, power screwdriver, nail gun, pneumatic hammers, rivet drivers, hand held power cutters</i>), • visit construction sites in the locality to learn about the uses of hand power tools, • engage a resource person on how to use hand power tools to perform tasks in building construction (<i>drilling, grinding, screwing, cutting, riveting, hammering</i>), • use print or digital media to discuss safety measures to observe when using hand power tools, • carry out tasks in building construction using hand power tools (<i>drilling, grinding, cutting, sharpening, riveting, screwing</i>).	Why do we need hand power tools in building construction?

			• use visual aids to discuss how to care for and maintain hand power tools, • make presentations on the importance of hand power tools in building construction.	
Core competencies to be developed: • Communication and Collaboration: learner speaks clearly and effectively as they discuss how to care for and maintain hand power tools. • Citizenship: learner interacts with others appropriately as they visit workplaces in the locality to learn about the uses of different hand power tools. • Self-Efficacy: learner develops the competence of task execution as they carry out activities in building construction using hand power tools.				
Values: • Unity: learner develops the attribute of cooperation during group discussions on safety measures to observe when using hand power tools. • Patriotism: learner develops the attribute of citizenship as they engage a resource person on how to use hand power tools to perform tasks in building construction.				
Pertinent and Contemporary Issues (PCIs): Citizenship Education: learner acquires attributes of good governance as they lead discussions on how to care for and maintain hand power tools.				

Strand	Sub strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Questions
1.0 Foundation of Building Construction	1.2 Construction Plant	By the end of the sub strand, the learner should be able to: - identify plant used in construction works, - classify construction plant based on their functions, - illustrate plant used in building construction, - select construction plant for a given task in building works, - assess the environmental impact of construction plant, - appreciate the importance of construction plant in building construction.	The learner is guided to: • brainstorm on the meaning of the term 'construction plant', • use visual aids to identify various construction plant used in building construction (<i>excavator, bulldozer, grader, poker vibrator, concrete mixer, backhoe, compactor, cranes, dump truck, front loader</i>), • visit a construction site to identify various plant used in construction, • use print or digital media to discuss the functions of various construction plant, • use charts to match construction plant to their functions (<i>hauling, earth moving, lifting, concreting, compacting</i>), • sketch different types of construction plant,	- What is the importance of construction plant in building construction? - How does the use of construction plant impact the environment?

			• use print of digital media to discuss factors to consider when selecting construction plant, • identify suitable construction plant for a given task in building works, • watch video clips on the environmental impact of using construction plant (<i>emissions, noise, vibrations, oil spills, obstruction of roads and pathways</i>), • discuss the environmental impact of construction plant, • make a presentation on the use of construction plant.	
Core competencies to be developed • Learning to learn: the learner builds relationships as they share what they have learnt during a presentation on responsible use of construction plant in building construction. • Critical Thinking and Problem solving: the learner develops the competence of exploring and searching different options as they identify suitable construction plant for a given task in building works • Digital Literacy: the learner develops the competence of identifying and connecting parts of a digital device when watching video clips on the environmental impact of using construction plant.				

Values: • Unity: the learner displays the attribute of fairness as they share visual aids to identify various construction plant used in building construction. • Peace: the learner develops the attributes of respect to self and others when visiting a construction site to identify various construction plant used in building construction. • Patriotism: the learner develops the attributes of citizenship when visiting a construction site to identify various construction plant used in building construction.
Pertinent and Contemporary Issues (PCIs): • Socio-economic and Environmental Issues: the learner acquires the attribute of safety at the workplace as they visit a construction site to identify various construction plant used in building construction.

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
1.0 Foundation of Building Construction	1.3 Site Organisation	By the end of the sub strand, the learner should be able to; a) identify amenities on a construction site, b) explain factors to consider when organising a construction site, c) draw a site layout plan for a construction site, d) appreciate the importance of proper site organisation.	The learner is guided to; - use print or digital media to discuss the amenities required on a construction site (<i>access roads, storage, offices, water, power, security, welfare facilities</i>), - discuss the building code requirements for site organisation, - use print or digital media to discuss factors to consider when organising a construction site, - use drawing tools to draw a site layout plan showing the arrangement of amenities required on a construction site (<i>access roads, storage, offices, water, power, security, welfare facilities</i>), - make a presentation on the importance of proper site organisation.	Why is site organisation important in building construction?

Core competencies to be developed: - Communication and Collaboration: learner develops the competence of listening keenly and actively as they discuss factors to consider when organising a construction site. - Learning to Learn: Learner develops the skill of sharing what they have learnt as they develop a presentation to enlighten the school community on the need for proper organisation of building construction sites. - Creativity and imagination: learner generates and applies new ideas as they draw a site layout plan for a building construction project.
Values: - Love: learner develops sharing attributes as they share drawing tools to draw a site layout plan for a building construction project. - Responsibility: learner develops accountability attributes as they use print or digital media to discuss the amenities required on a construction site. - Respect: learner develops open mindedness attributes as they brainstorm on the role of different roads in relation to building site services.
Pertinent and Contemporary Issues (PCIs): - Socioeconomic and Environmental issues: learner develops environmental conservation attributes as they carry out site organisation activities. - Citizenship: learner develops equity and non-discrimination as they visit a construction site in the locality to learn about ways of securing a construction site.

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
1.0 Foundation of Building Construction	1.4 Appropriate Technology in Building	By the end of the sub strand, the learner should be able to; a) identify building materials for construction using appropriate technologies, b) illustrate structures in the locality constructed using appropriate technology, c) model building structures constructed using appropriate technology, d) value the importance of appropriate technology in building construction.	The learner is guided to; - brainstorm on the meaning of the term 'appropriate technology', - use print or digital media to discuss materials used in appropriate technologies in building (<i>thatch, compressed earth blocks, rammed earth, bamboo, interlocking stabilized soil blocks, recycled and waste materials</i>), - visit the locality to observe buildings constructed using appropriate technology, - sketch buildings constructed using appropriate technology, - use locally available materials to develop a model of a building	How is appropriate technology important in building construction?

			structure constructed using appropriate technology, make a presentation on the importance of appropriate technology in building construction.	
Core competencies to be developed: - Communication and Collaboration: the learner develops the competence of listening keenly and actively as they discuss various types of materials used in appropriate technologies in building. - Learning to Learn: the learner develops the competence of sharing what they have learnt as they use locally available materials to develop a model of a building structure constructed using appropriate technology. - Citizenship: the learner develops the attribute of support and contribution to community development as they visit the locality to observe buildings constructed using appropriate technology.				
Values: - Love: the learner develops the attribute of sharing as they use locally available materials to develop a model of a building structure constructed using appropriate technology. - Responsibility: the learner develops accountability attributes as they use print or digital media to discuss various types of materials used in appropriate technologies in building. - Respect: the learner develops the attribute of open mindedness as they brainstorm on the meaning of the term 'appropriate technology' as used in building construction.				
Pertinent and Contemporary Issues (PCIs): - Socioeconomic and Environmental issues: the learner develops the attribute of waste management as they use locally available materials to develop a model of a building structure constructed using appropriate technology. - Citizenship: the learner develops equity and non-discrimination as they visit the locality to observe buildings constructed using appropriate technology.				

Suggested Assessment Rubric

Level Indicator	Exceeds expectations	Meets expectations	Approaches expectations	Below expectations
Ability to identify hand power tools used in building construction	Identifies all hand power tools used in building construction	Identifies most hand power tools used in building construction	Identifies some hand power tools used in building construction	Identifies some hand power tools used in building construction with guidance
Ability to perform tasks using hand power tools	Comprehensively performs tasks using hand power tools	Performs tasks using hand power tools	Performs some tasks using hand power tools	Performs some tasks using hand power tools with assistance
Ability to explain factors to consider when organising a construction site	Explains factors to consider when organising a construction site comprehensively	Explains factors to consider when organising a construction site	Explains some factors to consider when organising a construction site	Explains some factors to consider when organising a construction site with assistance
Ability to illustrate ways of securing a building construction site	Illustrates ways of securing a building construction site to detail	Illustrates ways of securing a building construction site	Illustrates ways of securing a building construction site leaving out a few details	Illustrates ways of securing a building construction site leaving out many details

STRAND 2.0: RELATED DRAWING

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
2.0 Related Drawing	2.1 Orthographic Projection	By the end of the sub strand, the learner should be able to; a) explain the types of orthographic projections in drawing, b) draw views of shaped blocks in first angle orthographic projection, c) draw views of shaped blocks in third angle orthographic projection, d) appreciate the role of orthographic projections in drawing.	The learner is guided to; - discuss the meaning of orthographic projection, - use print or digital media to distinguish between first and third angle orthographic projection (<i>direction of view, arrangement of views, symbols</i>), - use drawing instruments to develop and arrange views in first angle orthographic projection, - use drawing instruments to develop and arrange views in third angle orthographic projection, - make a presentation on the role of orthographic projections in drawing.	How are orthographic drawings applied in day-to-day life?
Core competencies to be developed: - Creativity and Imagination: learner develops the competence of discovering new ways of doing things as they use drawing instruments to develop and arrange views in first angle orthographic projection. - Critical thinking and problem solving: learner develops the competence of following instructions as they use drawing instruments to develop and arrange views in third angle orthographic projection. - Self-Efficacy: learner develops the competence of showing attention to detail while drawing orthographic views.				

Values: • Social Justice: learner shares resources equitably as they use drawing instruments to construct shaped blocks in orthographic projection. • Responsibility: learner develops accountability as they use drawing instruments to develop and arrange views in first angle orthographic projection. • Respect: learner develops acceptance of other peers' views when discussing the procedure for developing and arranging views in first angle orthographic projection.
Pertinent and Contemporary Issues (PCIs): Socioeconomic and environmental issues: learner develops safety and security as they use drawing instruments to develop and arrange views in orthographic projection.

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
2.0 Related Drawing	2.2 Computer Aided Drawing (CAD)	By the end of the sub strand, the learner should be able to; a) set up a 3D CAD environment for a drawing, b) draw shaped blocks in isometric projection using CAD software, c) draw shaped blocks in oblique projection using CAD software, d) value the importance of CAD in three-dimensional drawing.	The learner is guided to; • set up a 3D CAD drawing environment (<i>launch CAD programme, define drawing limits, define drawing scale, define drawing units, set up the drawing grid</i>), • use CAD to draw shaped blocks in isometric projection, • use CAD to draw shaped blocks in oblique projection (<i>cavalier and cabinet</i>), • organise a gallery of 3D CAD drawings.	How important is CAD in building construction?
Core competencies to be developed: • Digital Literacy: learner develops the competence of adopting new digital technology as they draw blocks in isometric projection using CAD software. • Self-Efficacy: learner presents ideas with confidence as they organise a gallery of 3D CAD drawings. • Critical thinking and problem solving: learner develops the competence by drawing isometric and oblique projection using CAD software.				

Values:

- Respect: learner develops etiquette as they discuss the steps to follow when setting up a 3D CAD drawing environment.
- Responsibility: learner develops diligence as they use CAD to draw blocks in oblique projection.

Pertinent and Contemporary Issues (PCIs):

- Socioeconomic and environmental issues: learner develops safety and security as they handle digital media safely.

Suggested Assessment Rubric

Level Indicator	Exceeds expectations	Meets expectations	Approaches expectations	Below expectations
Ability to draw views of blocks in first angle orthographic projection	Draws detailed views of blocks in first angle orthographic projection	Draws views of blocks in first angle orthographic projection	Draws views of blocks in first angle orthographic projection leaving out a few details	Draws views of blocks in first angle orthographic projection leaving out many details
Ability to set up a 3D CAD drawing environment on a digital device	Comprehensively sets up a 3D CAD drawing environment on a digital device	Sets up a 3D CAD drawing environment on a digital device	Sets up a 3D CAD drawing environment on a digital device leaving out a few commands	Sets up a 3D CAD drawing environment on a digital device leaving out many commands
Ability to draw blocks in isometric projection using CAD software	Draws detailed blocks in isometric projection using CAD software	Draws blocks in isometric projection using CAD software	Draws blocks in isometric projection using CAD software leaving out few details	Draws blocks in isometric projection using CAD software leaving out many details

STRAND 3.0: BUILDING CONSTRUCTION PROCESSES

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
3.0 Building Construction Processes	3.1 Masonry Superstructure Walling	By the end of the sub strand, the learner should be able to; - classify walls used in building, - illustrate types of bonds in walling, - set out a masonry superstructure wall from profile boards, - construct a masonry superstructure wall in a given bond, - appreciate the importance of masonry superstructure walls in construction.	The learner is guided to; ● discuss the building code requirements for masonry walling, ● use print or digital media to categorise walls based on function (<i>partition, parapet, ventilation wall, load-bearing, non-load bearing</i>) location (<i>interior, exterior</i>), material (<i>brick, stone, concrete</i>), method of construction (<i>cavity, solid, dry walls</i>), ● sketch types of bonds (<i>stretcher, English, Flemish, header</i>), ● discuss the procedure of setting out a masonry superstructure wall (<i>establish wall outline, mark out the outline, set out cornerstones</i>),	- How is superstructure walling essential in a building? - Why is bonding necessary in walling?

			• set out a given superstructure wall from profile boards, • discuss appropriate safety measures to observe during superstructure walling, • construct a masonry superstructure wall in different bonds (<i>Select walling material, prepare walling units, mix mortar to a given ratio, lay intermediate walling units, clean up working area</i>), • discuss the importance of masonry superstructure walling in construction.	
Core competencies to be developed: • Critical Thinking and Problem Solving: learner develops the competence of exploring complex problems as they set out a masonry superstructure wall. • Learning to Learn: learner develops the competence of sharing what they have learnt when they use the building code to discuss the requirements for superstructure walling. • Self-Efficacy: learner develops the competence of task execution as they construct a masonry superstructure wall in different bonds.				
Values: • Responsibility: learner develops accountability as they care for the visual aids that they use to discuss the types of openings in walls. • Integrity: learner develops the attribute of discipline as they observe safety measures during superstructure walling.				

• Patriotism: learner develops the attribute of the rule of law as they use the building code to discuss requirements for superstructure walling. • Unity: learner displays the attribute of team spirit as they construct a superstructure wall. • Peace: learner develops the attribute of respect of self and others as they use visual aids to discuss appropriate tools for superstructure walling.
Pertinent and Contemporary Issues (PCIs): • Socioeconomic and Environmental issues: learner acquires the attribute of safety and security as they observe safety when constructing superstructure walling. • Citizenship Education: learner develops the attribute of leadership skills as they coordinate each other while constructing a superstructure walling.

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
3.0 Building Construction Processes	3.2 Timber Superstructure Walling	By the end of the sub strand, the learner should be able to; a) identify types of timber walls, b) describe methods of constructing timber walls, c) set out a timber superstructure wall from profile boards, d) model a timber superstructure wall for a building, e) appreciate the importance of timber superstructure walls in construction.	The learner is guided to; - discuss the building code requirements for timber walling, - use print or digital media to discuss types of timber walls (<i>timber framed walls, panel timber walls, plank walls</i>), - sketch different timber joints (<i>butt joint, lap joint, mortise and tendon, tongue and groove, housing joint</i>), - discuss methods of constructing timber walls (<i>timber framing, stud construction</i>), - discuss the procedure of setting out a timber superstructure wall (<i>measure and mark the wall position, locate the bottom plate's position, check squareness of corners</i>), - safely use tools and equipment to model a timber superstructure wall (<i>timber framed walls</i>),	- How is superstructure walling essential in a building? - Why is bonding necessary in walling?

			discuss the importance of timber superstructure walling in construction.	
Core competencies to be developed: Critical Thinking and Problem Solving: learner develops the competence of exploring complex problems as they set out a timber superstructure wall. Learning to Learn: learner develops the competence of sharing what they have learnt when they use the building code to discuss the requirements for timber superstructure walling. Self-Efficacy: learner develops the competence of task execution as they construct a timber superstructure wall in different bonds.				
Values: Integrity: learner develops the attribute of discipline as they observe safety measures during timber superstructure walling. Patriotism: learner develops the attribute of the rule of law as they use the building code to discuss requirements for timber superstructure walling. Unity: learner displays the attribute of team spirit as they construct a timber superstructure wall. Peace: learner develops the attribute of respect of self and others as they use visual aids to discuss appropriate tools for timber superstructure walling.				
Pertinent and Contemporary Issues (PCIs): Socioeconomic and Environmental issues: learner acquires the attribute of safety and security as they observe safety when constructing timber superstructure walling. Citizenship Education: learner develops the attribute of leadership skills as they coordinate each other while constructing a timber superstructure walling.				

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
3.0 Building Construction Processes	3.3 Wall Openings	By the end of the sub strand, the learner should be able to; a) identify types of wall openings in buildings, b) illustrate types of bridging to wall openings, c) fabricate formwork for bridging openings, d) bridge an opening in a superstructure wall, e) appreciate the importance of walls opening in a superstructure wall.	The learner is guided to; - discuss the building code requirements for wall openings, - use visual aids to discuss the types of openings in walls (<i>windows, doors, vents</i>), - sketch different types of bridging to openings in walls (<i>lintel, flat arch, segmental arch, semi-circular arch</i>), - download and watch a video on bridging to openings in walls (<i>lintel, arches</i>), - use locally available materials to fabricate formwork for bridging openings, - use appropriate tools and equipment to bridge openings in walls (<i>lintel, masonry arches</i>), - discuss the importance of wall openings in buildings.	Why are openings bridged in a building?

Core competencies to be developed: - Critical Thinking and Problem Solving: learner develops the competence of exploring complex problems as they set out a masonry superstructure wall. - Learning to Learn: learner develops the competence of sharing what they have learnt when they use the building code to discuss the requirements for superstructure walling. - Self-Efficacy: learner develops the competence of task execution as they construct a masonry superstructure wall in different bonds.
Values: - Responsibility: learner develops accountability as they care for the visual aids that they use to discuss the types of openings in walls. - Integrity: learner develops the attribute of discipline as they observe safety measures to observe during superstructure walling. - Patriotism: learner catches the attribute of the rule of law as they use the building code to discuss requirements for superstructure walling. - Respect: learner develops the attribute of patience as they share tools and equipment when constructing a superstructure wall. - Social Justice: learner develops the attribute of cooperation as they use visual aids to discuss appropriate tools for superstructure walling.
Pertinent and Contemporary Issues (PCIs): - Socioeconomic and Environmental issues: learner acquires the attribute of safety and security as they observe safety when constructing superstructure walling. - Citizenship Education: learner develops the attribute of leadership skills as they coordinate each other while constructing a superstructure walling.

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
3.0 Building Construction Processes	3.4 Scaffolding	By the end of the sub strand, the learner should be able to; a) identify materials used in scaffolding, b) illustrate types of scaffolding in construction, c) models types of scaffolds used in construction, d) value the importance of scaffolding in building and construction.	The learner is guided to; • use print or digital media to discuss the term scaffolding, • use print or digital media to discuss materials used in scaffolding, • use the building code to discuss the functional requirements of scaffolding, • download and watch videos on the types of scaffolding (<i>dependent, independent</i>), • sketch types of scaffolding (<i>dependent, independent</i>), • discuss appropriate safety measures to observe when scaffolding, • use available resources to model a dependent and independent scaffold, • make a presentation on the importance of scaffolding in building construction.	Why is scaffolding important in building construction?

Core competencies to be developed: • Learning to Learn: learner develops the competence of sharing what they have learnt when using the building code to discuss the requirements for scaffolding. • Self-Efficacy: learner develops the competence of task execution as they make a presentation on the importance of scaffolding in building construction.
Values: • Respect: learner develops the attribute of acceptance for each other's opinion as they discuss appropriate safety measures to observe when using scaffolds. • Responsibility: learner develops accountability as they care for visual aids that they use to discuss types of scaffolding. • Patriotism: learner demonstrates attributes of democracy and the rule of law as they use the building code to discuss the requirements for scaffolding.
Pertinent and Contemporary Issues (PCIs): • Socioeconomic and Environmental issues: learner develops the attribute of environmental technology as they preserve scaffolding materials for future reuse.

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
3.0 Building Construction Processes	3.5 Roof Construction	By the end of the sub strand, the learner should be able to; a) identify types of roofs used in buildings, b) illustrate components of a roof, c) model a given roof framework for a building, d) select materials for roof covering, e) value the importance of a roof on a building.	The learner is guided to; - discuss the meaning and purpose of a roof, - use the building code to discuss the functional requirements of roofs, - use print or digital media to discuss the types of roofs (<i>flat and pitched roofs</i>), - use models to identify components of a roof (<i>rafter, purlins, fascia board, joist, truss, wall plates, ceiling joists, ridge board, barge board, soffit board</i>), - sketch the components of a roof, - use locally available materials to model a roof framework for a given building, - use visual aids to discuss types of roof coverings, - develop charts on factors to consider when selecting roof coverings,	Why is roofing necessary on a building?

			make a presentation on the importance of a roof on a building.	
Core competencies to be developed: - Learning to Learn: learner develops the competence of sharing what they have learnt when using the building code to discuss the functional requirements of roofs. - Self-Efficacy: learner develops the competence of task execution as they use hand tools to construct different types of roofs.				
Values: - Respect: learner develops the attribute of acceptance for each other's opinion as they discuss the steps to follow when constructing different types of roofs. - Responsibility: learner develops accountability as they care for visual aids that they use to discuss different types of roof coverings. - Integrity: learner develops the attribute of reliability as they carefully use drawing instruments to sketch different types of roofs.				
Pertinent and Contemporary Issues (PCIs): Socioeconomic and Environmental issues: learner acquires the attribute of safety and security as they observe safety when constructing different types of roofs.				

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
3.0 Building Construction Processes	3.6 Doors	By the end of the sub strand, the learner should be able to; a) identify materials used for door construction, b) classify doors used in buildings, c) illustrate the components of doors, d) model a given door for a building, e) appreciate the importance of doors in a building.	The learner is guided to; ● use the building code to discuss the requirements for doors, ● use visual aids to discuss materials used for door construction (<i>timber, metal, glass, PVC, composite</i>), ● use charts to categorize doors based on mode of operation (<i>hinged, sliding, folding, revolving, rolling shutter, swing, pivot</i>), material (<i>timber, metal, glass, PVC, composite</i>), construction (<i>panel, flush, glazed, louvered, framed and battened</i>), location (<i>external, internal, garage, fire doors</i>), function (<i>security, acoustic, fire-resistant, emergency exit, decorative</i>), ● sketch the components of doors used in buildings (<i>flush and panel doors</i>), ● use locally available materials to model a door for a given building, ● make a presentation on the importance of doors in a building.	Why are doors necessary in a building?

Core competencies to be developed: ● Communication and Collaboration: learner develops the competence of teamwork as they use the building codes to discuss the requirements for doors. ● Creativity and imagination: learner develops the competence of creative thinking as they use drawing instruments to sketch types of doors. ● Self-Efficacy: learner develops the competence of task execution as they use appropriate tools and equipment to instal a door
Values: ● Responsibility: learner develops accountability as they care for the visual aids they use to discuss types of doors. ● Respect: learner develops the attribute of appreciating diverse opinions as they discuss the procedure for installing a door ● Integrity: learner develops the attribute of self-discipline as they observe safety when installing doors.
Pertinent and Contemporary Issues (PCIs): ● Socio-economic and environmental issues: learner develops the attribute of safety and security as they use print or digital media to discuss the safety precautions to observe when installing doors.

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
3.0 Building Construction Processes	3.7 Windows	By the end of the sub strand, the learner should be able to; a) identify materials used for window construction, b) classify windows used in buildings, c) illustrate the components of windows used in buildings, d) model a given window for a building, e) appreciate the importance of windows in a building.	The learner is guided to; - use the building code to discuss the requirements for windows, - use visual aids to discuss materials used for window construction (<i>timber, metal, glass, PVC, composite</i>), - use charts to categorize windows based on mode of operation (<i>fixed, casement, sliding, pivot, hopper, awning, louvered, sash, skylight</i>), material (<i>timber, metal, UPVC, glass, composite</i>), purpose (<i>ventilation, lighting, emergency escape, decorative</i>), location (<i>external, internal, roof, corner</i>) shape/design (<i>rectangular, arched, circular, trapezoidal</i>), - sketch the components of windows used in buildings (<i>casement and sliding windows</i>),	Why are doors necessary in a building?

			- use locally available materials to model a window for a given building, - make a presentation on the importance of windows in a building.	
Core competencies to be developed: - Communication and Collaboration: learner develops the competence of teamwork as they use the building codes to discuss the requirements for windows. - Creativity and imagination: learner develops the competence of creative thinking as they use drawing instruments to sketch types of windows. - Self-Efficacy: learner develops the competence of task execution as they use appropriate tools and equipment to install a window.				
Values: - Responsibility: learner develops accountability as they care for the visual aids they use to discuss types of windows. - Respect: learner develops the attribute of appreciating diverse opinions as they discuss the procedure for installing a window. - Integrity: learner develops the attribute of self-discipline as they observe safety when installing windows.				
Pertinent and Contemporary Issues (PCIs): Socio-economic and environmental issues: learner develops the attribute of safety and security as they use print or digital media to discuss the safety precautions to observe when installing windows.				

Suggested Assessment Rubric

Level Indicator	Exceeds expectations	Meets expectations	Approaches expectations	Below expectations
Ability to classify walls used in construction	Classifies walls used in construction comprehensively	Classifies walls used in construction	Classifies walls used in construction leaving out a few concepts	Classifies walls used in construction leaving out many concepts
Ability to set out a superstructure wall from profile boards	Sets out a superstructure wall from profile boards comprehensively	Sets out a superstructure wall from profile boards	Sets out some details of the superstructure wall from profile boards	Sets out some details of the superstructure wall from profile boards with assistance
Ability to construct a timber superstructure wall	Constructs a timber superstructure wall completely	Constructs a timber superstructure wall	Constructs part of a timber superstructure wall	Constructs part of a timber superstructure wall with assistance
Ability to identify types of wall openings in buildings	Identifies all types of wall openings in buildings	Identifies types of wall openings in buildings	Identifies some types of wall openings in buildings	Identifies some types of wall openings in buildings with guidance
Ability to bridge an opening in a superstructure wall	Bridges an opening in a superstructure wall comprehensively	Bridges an opening in a superstructure wall	Bridges part of an opening in a superstructure wall	Bridges part of an opening in a superstructure wall with guidance
Ability to describe types of scaffolding	Describes types of scaffolding comprehensively	Describes types of scaffolding	Describes some of the types of scaffolding	Describes a few types of scaffolding with guidance

Level Indicator	Exceeds expectations	Meets expectations	Approaches expectations	Below expectations
Ability to install doors and door frames in wall openings	Installs doors and door frames in wall openings with all fittings	Installs doors and door frames in wall openings	Installs doors and door frames in wall openings leaving out a few fittings	Installs doors and door frames in wall openings leaving out many fittings

STRAND 4.0: BUILDING SERVICES

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
4.0 Building Services	4.1 Domestic Water Supply	By the end of the sub strand, the learner should be able to; a) identify sources of water for domestic use, b) describe the types of water storage tanks used for domestic use, c) illustrate types of water supply systems to a building, d) appreciate the importance of water supply for domestic use.	The learner is guided to; • use digital and print media to search for the meaning of 'domestic water supply', • use visual aids to discuss different sources of water for domestic use (<i>surface water, underground water</i>), • use print or digital media to search for information on types of water storage tanks used for domestic use (<i>underground, ground level, and elevated/overhead tank</i>), • sketch types of water supply systems (<i>direct and indirect cold-water supply</i>), • make presentations on the importance of water supply for domestic use.	1. Why is it important to supply water to buildings? 2. What influences the choice of a water supply system?
Core competencies to be developed: • Communication and Collaboration: learner develops the competence of speaking clearly and effectively as they discuss different sources of water for domestic use.				

• Learning to Learn: learner develops the competence of learning independently as they sketch different types of water supply systems. • Self-Efficacy: learner develops the competence of task management as they make presentations on the importance of water supply for domestic use.
Values: • Responsibility: learner develops accountability as they take care of visual aids as they use them to discuss different sources of water for domestic use. • Respect: learner develops the attribute of patience as they listen to one another during discussions of different sources of water for domestic use. • Integrity: learner displays honesty as they make their own presentations on the importance of water supply for domestic use.
Pertinent and Contemporary Issues (PCIs): Health promotion issues: learner develops assertiveness as they make presentations on the importance of water supply for domestic use.

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
4.0 Building Services	4.2 Sanitary Appliances	By the end of the sub strand, the learner should be able to; a) identify sanitary appliances used in a building, b) illustrate sanitary appliances used in plumbing works, c) distinguish between soil and wastewater appliances used in a building, d) install sanitary appliances used in a building, e) value the importance of sanitary appliances used in a building.	The learner is guided to; - use a gallery walk to identify sanitary appliances (<i>wash hand basins, kitchen sinks, shower, bathtub, water closets, urinal, bidet</i>), - sketch sanitary appliances used in buildings (<i>wash hand basins, kitchen sinks, shower, bathtub, water closets, urinal, bidet</i>), - use visual aids to discuss the difference between soil and wastewater appliances soil appliances (<i>toilets, urinals, bidets</i>) wastewater appliances (<i>sinks, basins, showers, bathtubs, washing machines</i>), - use print or digital media to discuss the procedure for installing sanitary appliances, - discuss the safety precautions to observe when installing sanitary appliances,	Why are sanitary appliances essential in a building?

			- use appropriate tools and equipment to install sanitary appliances (<i>wash hand basins, WC</i>), - make a poster on the importance of sanitary appliances in a building.	
Core competencies to be developed: - Communication and Collaboration: learner develops clear and effective speaking as they discuss the difference between soil and waste appliances. - Learning to Learn: learner develops the competence of learning independently as they use a gallery walk to identify sanitary appliances - Self-Efficacy: learner develops the competence of task management as they install sanitary appliances. - Citizenship: learner develops the competence of critical and constructive dialogue as they use a gallery walk to identify sanitary appliances.				
Values: - Responsibility: learner develops accountability as they use appropriate tools and equipment to install sanitary appliances. - Integrity: learner displays reliability as they compose and present a skit on the importance of sanitary appliances used in a building.				
Pertinent and Contemporary Issues (PCIs): - Socio-economic and Environmental issues: learner acquires the attribute of safety and security when applying appropriate safety precautions to observe when installing sanitary appliances. - Citizenship Education: learner develops awareness as they coordinate each other while presenting a skit on the importance of sanitary appliances used in a building.				

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
4.0 Building Services	4.3 Drainage Systems	By the end of the sub strand, the learner should be able to; a) identify types of drainage systems laid on a construction site, b) illustrate the layout of subsurface drainage systems on a site, c) model a subsurface drainage system for a site, d) acknowledge the importance of an efficient drainage system on a building site.	The learner is guided to; • use the building code to discuss the functional requirements of a drainage system, • use print or digital media to discuss types of drainage systems laid on a construction site (<i>surface drainage, storm water drainage</i>), • sketch the layouts or patterns for subsurface drainage systems (<i>radial, herringbone, fan, grid, parallel, branching</i>), • use locally available materials to model subsurface drainage systems on a building site, • make a presentation on the importance of an efficient drainage system on a building site.	Why is drainage necessary in building construction?
Core competencies to be developed: • Communication and Collaboration: learner speaks clearly and effectively as they discuss the layout of pipes for drainage systems. • Learning to Learn: learner develops the competence of working collaboratively as they use locally available materials to construct models of the types of drainage.				

• Citizenship: learner develops the competence of critical and constructive dialogue as they present on the importance of an efficient drainage systems in a building.
Values: • Responsibility: learner takes care of the visual aids used to discuss the types of drainage systems in construction works. • Unity: learner displays cooperation as they construct models of the types of drainage.
Pertinent and Contemporary Issues (PCIs): Socioeconomic and Environmental issues: learner develops the attribute of safety and security as they discuss the safety precautions to observe when installing sanitary appliances.

Strand	Sub strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Questions
4.0 Building Services	4.4 Building Construction Project	By the end of the sub strand, the learner should be able to: a) describe the design process for a project, b) carry out needs assessment to identify a problem in the community, c) design a product to solve the identified problem, d) develop a cost estimate for the identified project.	The learner is guided to: • use print or digital media to discuss the design process for a project (<i>define the problem, research and collect data, concept development, modelling, evaluation/feedback</i>), • carry out needs assessment to identify problems affecting the community, • choose a project solution for the identified problem, • design a product to solve the identified problem (<i>make working drawings, develop a materials list for the project</i>), • use computing devices to develop a cost estimate for the identified project.	Why is needs assessment critical in project development?
Core competencies to be developed: • Citizenship: the learner develops the attribute of communicating in different environments as they carry out needs assessment to identify problems affecting the community. • Self-Efficacy: the learner develops the attribute of task execution as they use computing devices to develop a cost estimate for the identified project.				

• Critical Thinking and Problem Solving: the learner develops the attribute of exploring problems by creating different possible solutions as they select a project solution for the identified problem.
Values: • Social Justice: the learner develops the attribute of cooperation as they use print or digital media to discuss the design process for a construction project. • Integrity: the learner develops the attribute of self-discipline as they select a project solution for the identified problem • Patriotism: the learner develops the attribute of serving the community as they carry out a needs assessment to identify problems affecting the community.
Pertinent and Contemporary Issues: • Citizenship Education: the learner develops the attribute of leadership skills as they coordinate each other in groups to carry out needs assessment to identify problems affecting the community. • Socio-economic and Environmental issues: the learner develops the attribute of financial literacy as they use computing devices to develop a cost estimate for the identified project.

Suggested Assessment Rubric

Level Indicator	Exceeds expectations	Meets expectations	Approaches expectations	Below expectations
Ability to distinguish between soil and waste appliances used in a building	Distinguishes between soil and waste appliances used in a building distinctively	Distinguishes between soil and waste appliances used in a building	Distinguishes between soil and waste appliances used in a building leaving out a few details	Distinguishes between soil and waste appliances used in a building leaving out many details
Ability to illustrate sanitary appliances used for plumbing works	Illustrates sanitary appliances used for plumbing works with details	Illustrates sanitary appliances used for plumbing works	Illustrates sanitary appliances used for plumbing works leaving few details	Illustrates sanitary appliances used for plumbing works leaving out many details
Ability to install sanitary appliances used in a building	Installs sanitary appliances used in a building with all fittings and fixtures	Installs sanitary appliances used in a building	Installs sanitary appliances used in a building leaving out a few fittings and fixtures	Installs sanitary appliances used in a building leaving out many fittings and fixtures
Ability to sketch sanitary appliance	Neatly sketches sanitary appliance	Sketches sanitary appliance	Sketches some sanitary appliance	With prompts, sketches some sanitary appliance
Ability to apply safety precautions when installing sanitary appliance	Consistently applies safety precautions when installing sanitary appliance	Applies safety precautions when installing sanitary appliance	Occasionally safety precautions when installing sanitary appliance	Applies safety precautions when installing sanitary appliance when reminded

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Level Indicator	Exceeds expectations	Meets expectations	Approaches expectations	Below expectations
Ability to construct models of the types of drainage in construction works	Constructs models of the types of drainage in construction works with details	Constructs models of the types of drainage in construction works	Constructs models of the types of drainage in construction works leaving out a few details	Constructs models of the types of drainage in construction works leaving out many details

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APPENDIX: SUGGESTED ASSESSMENT METHODS, SUGGESTED LEARNING RESOURCES AND NON-FORMAL ACTIVITIES

Strands	Sub Strands	Suggested Assessment Methods	Suggested Learning Resources	Suggested Non-Formal Activities
1.0 Foundation of Building Construction	1.1 Construction Hand Power Tools	• Practical work • Project • Observation	• Approved textbooks • Digital devices • Resource persons • PPEs • Hand power tools (drills, grinders, power screwdriver, nail gun, pneumatic hammers, rivet drivers, hand held power cutters)	• Visit construction sites to learn on the uses of hand power tools. • Group presentations
	1.2 Construction Plant	• Observation • Written test • Rubrics	• Approved textbooks • Charts • Digital devices • Pencils • Drawing set	• Field visit to identify various construction plant. • Group presentations
	1.3 Site Organisation	• Observation • Written test • Rubrics	• Approved textbooks • Digital devices • Drawing papers • Pencils	• Organise visits to construction sites • Group presentations

Strands	Sub Strands	Suggested Assessment Methods	Suggested Learning Resources	Suggested Non-Formal Activities
			• Drawing set	
	1.4 Appropriate Technology in Building	• Practical work • Project • Observation • Written test • Rubrics	• Approved textbooks • Digital devices • Pencils • Drawing set • Locally available construction materials (thatch, compressed earth blocks, rammed earth, bamboo, interlocking stabilized soil blocks, recycled and waste materials)	• Visit the locality to observe buildings constructed using appropriate technology. • Group presentations
2.0 Related Drawing	2.1 Orthographic projection	• Practical work • Portfolio • Observation • Written test • Rubrics	• Approved textbooks • Digital devices • Drawing board or table • Drawing papers • Pencils • Eraser • Drawing set	• Group presentations on the role of orthographic projection in drawing. • Participate in drawing and sketching clubs.

Strands	Sub Strands	Suggested Assessment Methods	Suggested Learning Resources	Suggested Non-Formal Activities
			• Scale rule • T-square • Set square	
	2.2 Computer Aided Drawing (CAD)	• Projects • Portfolio • Oral test • Written tests • Observation	• Approved textbooks • Computers • CAD software • Internet • Printouts of shaped blocks in isometric and oblique projections	• Organise a gallery of 3D CAD drawings. • Participate in drawing and sketching clubs.
3.0 Building Construction Processes	3.1 Masonry Superstructure Walling	• Observation • Written test • Oral test • Rubrics • Project • Practical work • Peer and self-assessment	• PPEs • Tools (trowel, tape measure, plumb bob, straight edge, brush, float, spirit level, spade) • Materials (sand, cement, aggregates, lime, water, brick, stone) • Equipment (Wheelbarrow) • Digital devices	• Material exploration: construct with different building materials (<i>i.e., stone, brick, concrete</i>). • Group discussions on the importance of masonry superstructure walls.

Strands	Sub Strands	Suggested Assessment Methods	Suggested Learning Resources	Suggested Non-Formal Activities
	3.2 Timber Superstructure Walling	• Observation • Written test • Oral test • Rubrics • Project • Practical work • Peer and self-assessment	• PPEs • Tools (tape measure, plumb bob, spirit level, square, drill, draw knives, saws, planers, chisel, mallet) • Materials (solid timber, panels) • Equipment (power tools) • Digital devices	• Group discussions on the importance of timber superstructure walling in construction.
	3.3 Wall Openings	• Observation • Written test • Rubrics • Project • Practical work • Peer and self-assessment	• Approved textbooks • Digital devices • Pencils • Drawing set • Timber • Cutting tools (saws, chisels, grinders) • Shaping tools • Concrete • Steel	• Group discussions on the importance of wall openings in buildings.

Strands	Sub Strands	Suggested Assessment Methods	Suggested Learning Resources	Suggested Non-Formal Activities
	3.4 Scaffolding	• Observation • Written test • Rubrics • Project • Practical work • Peer and self-assessment • Portfolio	• Approved textbooks • Digital devices • Pencils • Drawing set • PPEs • Timber • Tools (tape measure, saws, spirit level, hammer, chisels) • Materials (nails, bolts and nuts, anchors)	• Organize visits to construction sites. • Group presentations on the importance of scaffolding in building construction.
	3.5 Roof Construction	• Observation • Written test • Rubrics • Project • Practical work • Peer and self-assessment	• Approved textbooks • Digital devices • Pencils • Drawing set • Charts • PPEs • Timber • Tools (tape measure, saws, spirit level, hammer, chisels) • Materials (nails, bolts and	• Organize visits to construction sites.

Strands	Sub Strands	Suggested Assessment Methods	Suggested Learning Resources	Suggested Non-Formal Activities
			nuts, anchors) • Roof covering	
	3.6 Doors	• Observation • Written test • Rubrics • Project • Practical work • Peer and self-assessment	• Approved textbooks • Digital devices • Pencils • Drawing set • Charts • Timber • Tools (tape measure, saws, spirit level, hammer, chisels) • Materials (nails, bolts and nuts)	• Organize visits to construction sites. • Group presentations on the importance of doors in a building.
	3.7 Windows	• Observation • Written test • Rubrics • Project • Practical work • Peer and self-assessment	• Approved textbooks • Digital devices • Pencils • Drawing set • Charts • Timber • Tools (tape measure, saws, spirit level, hammer, chisels)	• Organize visits to construction sites. • Group presentations on the importance of windows in a building.

Strands	Sub Strands	Suggested Assessment Methods	Suggested Learning Resources	Suggested Non-Formal Activities
			Materials (nails, bolts and nuts)	
4.0. Building Services	4.1 Domestic Water Supply	- Written test - Oral test - Rubrics	- Approved textbooks - Digital devices - Pencils - Drawing set - Charts	Group presentations on the importance of water supply for domestic use.
	4.2 Sanitary Appliances	- Observation - Written test - Rubrics - Project - Practical work - Peer and self-assessment	- Approved textbooks - Digital devices - Pencils - Drawing set - Tools (pipe wrench, pipe cutter, pliers, spirit level) - Materials (fittings, valves, sealants) - PPEs	Make posters on the importance of sanitary appliances in a building.
	4.3 Drainage Systems	- Observation - Written test - Rubrics - Project	- Approved textbooks - Digital devices - Pencils - Drawing set	Group presentations on the importance of an efficient drainage system.

Strands	Sub Strands	Suggested Assessment Methods	Suggested Learning Resources	Suggested Non-Formal Activities
		- Practical work - Peer and self-assessment	- Pipes - Tools (pipe wrench, pipe cutter, pliers, spirit level) - PPEs	
	4.4 Building Construction Project	- Project - Practical work - Peer and self-assessment	- Digital devices - Locally available resources - PPEs	Interact with the locals to identify a problem in the community