



KENYA INSTITUTE OF CURRICULUM DEVELOPMENT
A Skilled and Ethical Society

SENIOR SCHOOL CURRICULUM DESIGN

WOODWORK

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 is in need of 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 instil 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

Woodwork is an optional subject offered at the senior school level, specifically within the Technical Studies track of the STEM pathway. It builds upon the competencies acquired during Pre-Technical Studies in junior school. The subject equips learners with the foundational knowledge, skills, attitudes, and values necessary to specialize in Technical Studies at the senior school level.

The subject focuses on the processing of timber and related products to create useful items for society, allowing learners to explore the unique relationship between trees, wood products, and humanity. It emphasizes the sustainable use and management of wood as a vital natural resource, essential for addressing the challenges of the 21st century. Wood serves as a fundamental material in woodwork, valued for its beauty, durability, workability, and sustainability, making it ideal for creating both functional and artistic objects in construction and various crafts. The subject maintains a balance between theoretical and practical work, engaging learners in projects that connect the content to their local environment. It fosters exploration, imagination, creativity, and innovation through hands-on projects and practical activities. Learners also gain practical experience by participating in industrial attachment programs facilitated through partnerships between schools and industry.

The curriculum is structured into four strands: Foundations of Woodwork, Materials, Timber Processes and Products, and Related Drawing, spanning Grades 10 to 12. Through this structure, learners acquire the knowledge, skills, attitudes, and values necessary for further training in tertiary institutions or for direct entry into the workforce through apprenticeships. They are prepared to pursue careers in fields such as wood science, carpentry and joinery, building construction, manufacturing, among others

SUBJECT GENERAL LEARNING OUTCOMES

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

1. Acquire knowledge on career opportunities, employability, and entrepreneurial skills in Woodwork.
2. Practice proper health and safety measures in the woodworking workplace
3. Demonstrate skills in identifying, selecting, using, and maintaining woodworking tools, machines, and equipment in the workplace.
4. Apply acquired skills in the production, processing, storage, selection, and utilisation of timber and other materials for effective use in woodworking.
5. Identify and utilise available timber for the production of timber products.
6. Use technical drawing skills as a communication tool for planning and designing woodworking products
7. Demonstrate creativity, innovation, and skill in finishing wood products.
8. Appreciate the benefits of evolution of technology and its application in Woodwork

SUMMARY OF STRANDS AND SUB STRANDS

Strands	Sub Strands
1.0 Foundations of Woodwork	1.1 Trends in woodwork
	1.2 Health and Safety at the Workshop
	1.3 Portable Power Tools
	1.4 Woodworking Machines
2.0 Materials	2.1 Timber defects
	2.2 Manufactured boards
3.0 Timber processes and products	3.1 Mass Production of timber Items
	3.2 Finishing
	3.3 Project Activity – Furniture Item
4.0. Related drawings	4.1 Orthographic Drawing
	4.2 Detailed drawing

STRAND 1.0 FOUNDATIONS OF WOODWORK

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
1.0 Foundations of Woodwork	1.1 Trends in woodwork	By the end of the sub strand, the learner should be able to: a) examine how technology has influenced the wood industry, b) manage waste materials effectively in a wood workshop, c) appreciate the role of emerging technology in the wood industry.	The learner is guided to: - search online or print media to find out how technology impacts the timber industry (<i>mechanisation, automation, production</i>) - visit nearby timber industries to learn about new technologies in action, - practice safe methods of disposing waste from a wood workshop (<i>Reduce, Reuse, Recycle and Recover</i>) - debate the importance of emerging technology in the wood industry	- Why is modern technology important in the woodworking industry? - How can waste materials be effectively managed in a wood workshop?
Core competencies to be developed: - Digital literacy: The learner develops digital skills by interacting with and using digital devices to search the impact of technology on the timber industry. - Learning to learn: The Learner reflect on their own ideas as they visit timber industries to observe new technologies in action.				

• Communication and Collaboration: The learner develops speaking, listening, and teamwork skills while debating the importance of emerging technology in the wood industry.
Values: • Unity: The learner work together in groups to practice safe methods of disposing waste from a wood workshop. • Respect: The learner appreciates the diverse opinions of others as they debate the importance of emerging technology in the wood industry.
Pertinent and Contemporary Issues (PCIs): • Cyber Security: The learner follows cyber regulations while searching online about the impact of technology on the timber industry. • Environmental Conservation: The learner practice safe methods of disposing waste from a wood workshop

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
1.0 Foundations of Woodwork	1.2 Health and Safety in the Workshop	By the end of the sub strand, the learner should be able to: a) explain safety precautions to be observed in a workshop, b) apply Occupational Safety and Health Act(OSHA) regulations in the workshop, c) embrace the importance of maintaining safety measures in the workshop.	The learner is guided to: • brainstorm about the Occupational Safety and Health Act- OSHA (<i>health general provisions, machine safety</i>), • interact with a resource person to gain awareness of OSHA regulations, • practice application of (OSHA) rules in the workshop • search online for charts, on safe working habits and display them within the workshop.	Why are health and safety regulations essential in the workshop?
Core competencies to be developed: • Digital literacy: The learner develops digital skills by interacting with and using digital devices to search online for charts on safe working habits. • Self-efficacy: The learner will develop effective communication skills through interactions with the resource person to gain awareness of OSHA regulations. • Communication and Collaboration: The learner develops speaking, listening, and teamwork skills while brainstorming about the Occupational Safety and Health Act (OSHA).				

Values:

- Patriotism: The learner promotes good safety practices in society by applying OSHA regulations in the workshop.
- Respect: The learner appreciates diverse opinions when brainstorming about the Occupational Safety and Health Act (OSHA).

Pertinent and Contemporary Issues (PCIs):

Safety and security: The learner observe safety for self and others in the workshop

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
1.0 Foundations of Woodwork	1.3 Portable Power Tools	By the end of the sub strand, the learner should be able to: a) explain the different types of portable power tools used in woodwork, b) use the appropriate portable power tool for a specific task, c) care for and maintain portable power tools used in the wood workshop, d) acknowledge the efficiency of portable power tools in woodworking.	The learner is guided to: ● brainstorm the types and uses of portable power tools in woodworking (<i>hand drill, circular saw, jigsaw, planer, router, sander, staple gun, nail gun</i>), ● use visual aids or realia to identify power tools, ● use digital devices to watch video clips on how to use portable power tools, ● operate portable power tools safely, ● visit a nearby workshop to explore the uses of portable power tools, ● observe proper care and maintenance of power tools (<i>cleaning, inspection, lubrication, sharpening, storage.</i>)	1. Why are portable power tools important in woodworking? 2. How are portable power tools maintained?

			discuss how to respond to emergencies when using portable power tools	
Core competencies to be developed: - Critical thinking and problem solving: The learner acquires research and investigation skills while observing proper care and maintenance of power tools. - Learning to learn: The learner shares learnt knowledge while visiting a nearby workshop to explore the uses of portable power tools - Communication and Collaboration: The learner develops speaking, listening, and teamwork skills while brainstorming the types and uses of portable power tools in woodworking.				
Values: - Responsibility: The learner observes safety precautions as they operate portable power tools safely in the workshop. - Peace: The learner relates well with one another when operating and using power tools in the workshop. - Unity: The learner cooperates with others when using print or digital media to watch video clips about the use of portable power tools.				
Pertinent and Contemporary Issues (PCIs): Social cohesion: The learner discuss how to respond to emergencies when using portable power tools.				

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
1.0 Foundations of Woodwork	1.4 Woodworking Machines	By the end of the sub strand, the learner should be able to: - describe the types of machines used in woodworking, - use appropriate woodworking machine for a specific task, - care for and maintain woodworking machines used in the workshop, - acknowledge the efficiency of using machines in woodworking.	The learner is guided to: - brainstorm the types and uses of woodworking machines (<i>circular saw, mitre saw, band saw, surface planer, thicknesser, drill press, wood lathe, bench grinder.</i>) - use digital media to watch video clip on how to use woodworking machines - operate woodworking machines safely (<i>ripping, crosscutting, curve cutting, rebating, grooving, planing, chamfering, beveling, drilling, turning, grinding</i>) - Practice proper care and maintenance of woodworking machines (<i>inspection, cleaning, oiling and greasing, sharpening, adjusting</i>)	- Why are woodworking machines important? - How are woodworking machines maintained?

			- visit nearby wood workshops to learn about different machines, - discuss how to respond to emergencies when using woodworking machines.	
Core competencies to be developed: Self-efficacy: The learner acquires self-awareness and planning skills by sharing experiences on the use of woodworking machines Learning to Learn: The learner develops research skills while visiting nearby wood workshops to learn about different machines. Communication and Collaboration: The learner develops listening and speaking skills while brainstorming the types and uses of woodworking machines.				
Values: Patriotism: The learner is aware of their responsibility in society when handling woodworking machines. Respect: The learner appreciates the diverse opinions of others as they share experiences on the use of woodworking machines Unity: The learner visits workshops in the school and neighbourhood as part of a team to learn about different machines.				
Pertinent and Contemporary Issues (PCIs): Personal Safety and Security: The learner demonstrates basic safety skills when using woodworking machines safely to perform tasks.				

Suggested Assessment Rubric

Level Indicator	Exceeds Expectations	Meets Expectations	Approaches Expectations	Below Expectations
Ability to examine how technology has influenced the wood industry	Comprehensively examine how technology has influenced the wood industry, citing relevant examples	Examines how technology has influenced the wood industry	Examines how technology has influenced the wood industry, leaving out few details	Examines how technology has influenced the wood industry, leaving out many details.
Ability to apply Occupational Safety and Health Act(OSHA) rules in a workshop	Consistently applies Occupational Safety and Health Act (OSHA) regulations with precision in the workshop	Applies Occupational Safety and Health Act(OSHA) regulations in the workshop	Applies Occupational Safety and Health Act (OSHA) regulations in the workshop with minimal precision	Applies Occupational Safety and Health Act (OSHA) regulations in the workshop without precision
Ability to explain different types of portable power tools used in woodwork,	Comprehensively explains the different types of portable power tools used in woodwork, providing relevant examples	Explains the different types of portable power tools used in woodwork	Explains the different types of portable power tools used in woodwork, omitting a few	Explain the different types of portable power tools used in woodwork, omitting many
Ability to describe the types of machines used in woodworking	Comprehensively describes the types of machines used in woodworking and effectively uses examples	Describes the types of machines used in woodworking	Describes the types of machines used in woodworking, with minor inaccuracies	Describes the types of machines used in woodworking with major inaccuracies

STRAND 2 .0 MATERIALS

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
2.0 Materials	2.1 Timber Defects	By the end of the sub strand, the learner should be able to: a) classify the different types of timber defects, b) explain the causes of timber defects, c) value the importance of using defect-free timber for woodworking.	The learner is guided to: - brainstorm the types of defects and their effect on timber, - use visual aids to identify different types of defects in timber, - discuss the classes of timber defects (<i>natural/growth, conversion and seasoning defects</i>), - illustrate different types of timber defects, - use print or digital media to search for information on causes of timber defects, - select defect-free timber for a given task.	Why is it important to address timber defects?
Core competencies to be developed: - Communication and collaboration: The learner develops speaking, listening, and teamwork skills while discussing the classes of timber defects in groups. - Digital literacy: The learner develops digital skills by interacting with and manipulating digital devices to search for information on the causes of defects in timber. - Learning to learn: The learner applies acquired knowledge while illustrating different types of defects in timber.				

Values: - Respect: The learner appreciates each other's contributions during group activities while discussing timber defects. - Responsibility: The learner takes care of the visual aids used in identifying types of timber defects.
Pertinent and Contemporary Issues (PCIs): Self-awareness: The learner become conscious in identifying timber defects and the consequences in the end use of timber.

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
2.0 Materials	2.2 Manufactured boards	By the end of the sub strand, the learner should be able to: a) explain production of wood veneers from logs, b) distinguish different types of manufactured boards in woodworking, c) describe the manufacturing process of different types of boards, d) select the appropriate manufactured board for a specific task, e) appreciate the advantages of manufactured boards over solid timber.	The learner is guided to: ● use visual aids to explain the production of veneers from logs. (<i>rotary, slice</i>) ● use visual aids and realia to identify different types of manufactured boards ● sketch cross sections of different types of manufactured boards (<i>plywood, battenboard, blockboard, lamin board, chipboard, fibreboard, plastic laminate</i>), ● Use digital media to watch how manufactured boards are made ● visit a production unit to observe the process of manufacturing different types of boards	1. How are manufactured boards produced? 2. Why are manufactured boards preferred to solid timber?
Core competencies to be developed: ● Communication and collaboration: The learner acquires teamwork skills while sketching and illustrating the production of veneers and the cross-section of manufactured boards. ● Learning to learn: The learner acquires the skill of sharing learned knowledge while visiting the locality to observe various applications of manufactured boards				

Values: ● Unity: The learner takes a visit to the locality to observe different applications of manufactured boards ● Respect: The learner appreciates each other's opinion as they brainstorm the use of manufactured boards
Pertinent and Contemporary Issues (PCIs): Social cohesion: The learner visit the locality to observe different applications of manufactured boards

Suggested Assessment Rubric

Indicator \ Level	Exceeds Expectations	Meets Expectations	Approaches Expectations	Below Expectations
Ability to classify the different types of timber defects	Comprehensively classifies the different types of timber defects, citing examples	classifies the different types of timber defects	Classifies the different types of timber defects, leaving out a few details	Classifies the different types of timber defects, leaving out many details
Ability to distinguish different types of manufactured boards in woodworking	Accurately distinguishes different types of manufactured boards in woodworking, with detailed descriptions of their properties	Distinguishes different types of manufactured boards in woodworking	Distinguishes many different types of manufactured boards in woodworking	Distinguishes few different types of manufactured boards in woodworking
Ability to describe the process of manufacturing different types of boards	Exhaustively describes the process of manufacturing different types of boards, giving relevant examples	Describes the process of manufacturing different types of boards	Describes the process of manufacturing different types of boards, leaving out a few steps	Describes the process of manufacturing different types of boards, leaving out many steps

STRAND 3.0 TIMBER PROCESSES AND PRODUCTS

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
3.0.Timber and Products	3.1 Mass Production	By the end of the sub strand the learner should be able to: a) explain the concept of mass production in the manufacturing of wood products, b) explore the process of mass production in woodworking, c) plan a workshop layout for mass production, d) embrace the concept of mass production in the timber industry.	The learner is guided to: • brainstorm meaning of mass production, • discuss the process of mass production (<i>Design and planning, material preparation, machining, assembly and finishing</i>), • search online on how mass production is carried out in timber industries, • illustrate a workshop layout for mass production, • visit a production unit to observe the process of mass production .	1. Why is mass production important in the timber industry? 2. How does mass production influence workshop layout?
Core competencies to be developed: • Communication and collaboration: The learner acquire speaking, listening and teamwork skills while discuss the processes of mass production. • Critical thinking and problem solving: The learner develops evaluation and decision-making skills while illustrating a workshop layout for mass production. • Self-efficacy: The learner gains intrinsic motivation while expressing their views during discussions on the meaning of mass production.				

Values: • Responsibility: The learner uses and takes care of digital devices when searching online for information on how the mass production process is carried out in the timber industry. • Unity: The learner cooperates with others while discussing the processes of mass production.
Pertinent and Contemporary Issues (PCIs): Safety and security: The learner ensures safety and security while interacting with machines during a visit to a production unit to observe the mass production process.

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
3.0 Timber Process and Products	3.2 Finishing	By the end of the sub strand the learner should be able to: a) explain the different types of finishes used on wooden products, b) identify the equipment used in applying finishes on wooden products, c) apply different finishes on prepared wood surfaces, d) appreciate the importance of applying finishes on wooden products.	The learner is guided to: ● brainstorm on different types of finishes (<i>varnishes, polishes, lacquers, stains, paints</i>), ● use visual aids to select the appropriate equipment for applying a finish (<i>brush, roller, paint tray, polishing rag, spray gun</i>). ● prepare wood surface to receive a given type of finish ● discuss how to select appropriate finishes for a given wood item, ● correctly apply a given finish on wood surface (<i>polishing, lacquering, staining and painting</i>) ● observe safety precautions while applying finishes ● engage in a discussion with a resource person on the importance of applying finishes.	Why is finishing important for wooden products?

Core competencies to be developed: ● Learning to learn: The learner develops the skill of sharing knowledge when engaging in a discussion with a resource person about the importance of applying finishes. ● Critical thinking and problem solving: The learner demonstrates objective ideas, opinions, and views when selecting an appropriate finish for a given item. ● Self-efficacy: The learner gains intrinsic motivation while expressing their views on selecting appropriate finishes for a given wood item.
Values: ● Responsibility: The learner engages in their assigned role and duties when applying a finish to a wood surface ● Love: The learner interacts and shares tools while carrying out the operations of preparing a wood surface to receive a given type of finish.
Pertinent and Contemporary Issues (PCIs): Waste management: The learner exhibits skills in minimizing wastage when executing different processes on timber

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
3.0 Timber Process and Products	3.3 Project activity (wooden item)	By the end of the sub strand the learner should be able to: a) prepare a working drawing for the project item, b) select appropriate materials to use for the project, c) prepare the parts of the item using power tools and machines, d) assemble the parts to complete the project item, e) apply appropriate finish to complete the project, f) appreciate the skill of creativity in making wooden items.	The learner is guided to: - brainstorm and explore project ideas that provide solutions to a specific problem (<i>mini cabinet, notice board, bookshelf, study desk, side table, desk organizer toolbox storage rack</i>). - produce working drawings for a given project, - discuss appropriate materials to use for the project (<i>timber and manufactured boards</i>) - cut and plane the materials to size using power tools and machines - measure, mark and cut the joints accurately, - join the parts of the item using appropriate fasteners, - select and apply a finish on the wooden item to complete,	Why is following a design plan important when constructing a wooden product?

Core competencies to be developed: Self-efficacy; - Learning to learn: The learner develops the skill of sharing knowledge while producing working drawings for a given project. - Self-efficacy: The learner develops effective communication skills while measuring, marking, and cutting the joints accurately. Critical thinking and problem-solving: The learner applies more of what they are learning to their everyday life as they brainstorm and explore project ideas that provide solutions to a specific problem.
Values: - Responsibility: The learner engages in their assigned roles and duties when selecting and applying a finish to complete the wooden item. - Unity: The learner strives to work together as they discuss appropriate materials to use for the project.
Pertinent and Contemporary Issues (PCIs): Life Skills Moral Education: The learner develops innovative and creative skills while working on the project through to completion.

Suggested Assessment Rubric

Level Indicator	Exceeds Expectation	Meets Expectation	Approaches Expectation	Below Expectation
Ability to explore the process of mass production in a wood workshop,	Explores four processes of mass production in a wood workshop	Explores three processes of mass production in a wood workshop	Explores two processes of mass production in a wood workshop	Explores one processes of mass production in a wood workshop
Ability to explain different types finishes used on wood products	Exhaustively explains different types finishes used on wood products giving examples	Explains the different types of finishes used on wood products	Explains many different types finishes used on wood products	Explains a few different types finishes used on wood products
Ability to identify the equipment used in applying finishes on wood	Identifies more than four types of equipment used for applying finishes on wood	Identifies three types equipment used in applying finishes on wood	Identifies two types equipment used in applying finishes on wood	Identifies one type equipment used in applying finishes on wood
Ability to apply different finishes on prepared wood surfaces	Apply different finishes on prepared wood surface with very high level of skill	Applies different finishes on prepared wood surfaces	Applies different finishes on prepared wood surfaces with limited skills	Applies different finishes on prepared wood surfaces without skill

STRAND 4.0: RELATED DRAWING

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
4.0 Related Drawing	4.1 Orthographic Drawing	By the end of the sub strand, the learner should be able to: a) draw views of objects in first and third angle orthographic projection b) draw pictorial objects from orthographic views c) appreciate orthographic drawings as a means of communication	The learner is guided to: • sketch orthographic views from pictorial objects • Practice orthographic drawings of objects in both first-angle and third-angle projection, drawn to scale • sketch pictorial objects from orthographic views • practice drawing pictorial views of objects from orthographic projections, to scale • use of computer aided design(CAD) to draw Orthographic projections	Why is orthographic drawing important in technical drawing?
Core competencies to be developed: • Communication and collaboration: The learner acquires technical communication skills by practicing orthographic drawings of objects in both first-angle and third-angle projections, drawn to scale. • Critical Thinking and Problem Solving: The learner acquires interpretation and inference skills by practicing drawing pictorial views of objects from orthographic projections, to scale				

Values:

- Unity: The learner cooperates with others while sketching orthographic views from pictorial objects
- Love: The learners share drawing instruments and other materials used in drawing.

Pertinent and Contemporary Issues (PCIs):

Self Esteem : The learner develops self-esteem by practicing drawing pictorial views of objects from orthographic projections, to scale.

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Suggested Key Inquiry Question(s)
4.0 Related Drawing	4.2 Detailed drawing	By the end of the sub strand, the learner should be able to: a) explain different types of sections applied in drawing, b) draw sectional views of objects through a given cutting planes, c) draw exploded view of an object to show how parts fit together d) appreciate the role of detail drawings in communication.	The learner is guided to: • discuss different types of sections used in drawing (<i>full, half, offset, removed, revolved, broken-out section</i>) • search online for types of sections used in drawing • draw elevations of an object through a given cutting plane • interpret sectional drawings to visualize internal parts of objects • brainstorm on the concept of exploded drawings • sketch exploded views of a given item showing how parts fit together • produce exploded views of objects to scale	Why are detailed drawings important?

Core competencies to be developed: • Critical thinking and Problem Solving: The learner acquires innovative problem-solving skills by sketching exploded views of a given item, showing how the parts fit together. • Creativity and imagination: The learner develops interpretation and inference skills by interpreting sectional drawings to visualize the internal parts of objects. • Digital literacy: The learner acquires technological interaction skills when searching online for types of sections in drawings.	
Values: • Respect: The learner appreciates the contributions of others while discussing different types of sections used in drawing. • Responsibility: The learner takes care of drawing instruments while drawing exploded views of objects to scale.	
Pertinent and Contemporary Issues (PCIs): Online safety: The learner uses digital devices while searching online for types of sections used in drawing.	

Suggested Assessment Rubric

Level Indicator	Exceeds Expectations	Meets Expectations	Approaches Expectations	Below Expectations
Ability to draw views of objects in third angle orthographic projection	Draws views of objects in third angle orthographic projection with very high level of accuracy	Draws views of objects in third angle orthographic projection	Draws views of objects in third angle orthographic projection with few errors	Draws views of objects in third angle orthographic projection with many errors
Ability to explain different types of sections applied in drawing	Exhaustively explains different types of sections applied in drawing citing examples	Explains different types of sections applied in drawing	Explains different types of sections applied in drawing, leaving out few details	Explains different types of sections applied in drawing, leaving out many details
Ability to draw exploded view of an object to show how parts fit together	Draws an exploded view of an object to show how the parts fit together with a very high level of accuracy	Draws exploded view of an object to show how parts fit together	Draws an exploded view of an object to show hidden details, with few errors	Draws an exploded view of an object to show how the parts fit together, with many errors

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

Strand	Sub Strand	Suggested Assessment Methods	Suggested Learning Resources	Suggested Non-Formal Activities
1.0 Foundations of Woodwork	1.1 Trends in woodwork	• Oral tests • Observation • Checklist	• Digital devices such as; computer, laptop, smart phone, tablets among others • Resource person	Learners visit a nearby workshop in the locality to familiarize with wood workshop and trends in woodwork
	1.2 Health and Safety in the Workshop	• Oral tests • Observation	• Digital devices such as; computer, laptop, smart phone, tablets among others • Charts and photos • Resource person	• Learners visit a nearby workshop in the locality to observe application of OSHA rules • Design PPE using locally available material. • Road safety club.
	1.3 Portable Power Tools	• Observation • Checklist • Practical work • Oral tests	• Portable power tools: ○ Hand drill ○ Circular saw ○ Planer ○ Router ○ Jigsaw ○ Sander ○ Staple gun ○ Nail gun	• Learners visit a nearby workshop in the locality to observe the use Portable Power Tools • Discussion by a resource person on uses of tools and equipment.

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			• Digital devices such as; computer, laptop, smart phone, tablets among others • Charts and photos • Resource person • PPEs	• Parental empowerment and engagement.
	1.4 Woodworking Machines	• Observation • Checklist • Practical work • Oral tests	• Woodworking machines ○ Circular saw ○ Band saw ○ Mitre saw ○ surface planer ○ Drill press ○ Thicknesser ○ Wood lathe ○ Bench grinder • Charts and photos • Resource person • Digital devices such as; computer, laptop, smart phone, tablets among others • PPEs	• Learners visit a nearby workshop in the locality to observe the use Portable Power Tools • Discussion by a resource person on uses of tools and equipment.
2.0 Materials	2.1 Timber Defects	• Observation • Checklist • Written test • Rubrics	• Digital devices such as; computer, laptop, smart phone, tablets among others • Photos	• Learners visit a nearby workshop in the locality to observe timber Defects in timber

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			Assorted pieces of timber	
	2.2 Manufactured boards	- Observation - Checklist - Rubrics - practical work	- Digital devices such as; computer, laptop, smart phone, tablets among others. - Manufactured boards; - Veneers - Plywood - Battenboard - Blockboard - Lamin board - Chipboard, - Fibreboard - Plastic laminate - Resource person	Learners visit a nearby workshop in the locality to observe Manufactured boards
3.0 Timber processes and products	3.1 Mass Production of timber Items	- Oral tests - Observation - Practical work - Oral tests	- Digital devices such as; computer, laptop, smart phone, tablets among others - Resource personnel	- Learners visit a nearby workshop in the locality to observe Mass Production of timber Items - Discussion by a resource person on Mass Production of timber Items

	3.2 Finishing	- Oral tests - Observation - Written test - Practical work	- Assorted pieces of timber - Finishes (<i>varnishes, polishes, oils, lacquers, stains, paints</i>) - Finishing tools and equipment (<i>brush, spray gun, roller, paint tray, polishing rag</i>), - Digital devices such as; computer, laptop, smart phone, tablets among others - PPEs - Resource person	- Learners visit a nearby workshop in the locality to observe Finishing of wooden items - Discussion by a resource person on finishing of wooden items.
	3.3 Project Activity (Furniture Item)	- Observation - Checklist - Written test - Practical work - Project report as learners progress with making the furniture item	- Measuring and marking out tools - Holding tools - Cutting tools - Smoothing tools - Power machines - equipment - Assorted Pieces of wood (hard and soft) - Finishes (<i>varnishes, polishes, oils, lacquers, stains, paints</i>) - Finishing tools and equipment (<i>brush, spray gun, roller, paint</i>	- Learners visit a nearby workshop in the locality to familiarize use of different tools, material, in making of wooden item - Engage resource personnel

			tray, polishing rag), • Digital devices such as; computer, laptop, smart phone, tablets among others	
4.0. Related drawings	4.1 Orthographic Drawing	• Observation • Oral tests • Checklist • Written test • Rubrics	• Drawing papers • Drawing equipment • Digital devices • Computer Aided Design (CAD) software	• Learners take a walk around the school to observe and record the use projection in real life situation. • Discussion by a resource person on the use of CAD.
	4.2 Detailed drawing	• Observation • Oral tests • Checklist • Written test	• Drawing papers • Drawing equipment • Digital devices • Computer Aided Design (CAD) software	• Learners take a walk around the school to observe and record the use detail drawing in life situation. Discussion by a resource person on the use of CAD.