REPUBLIC OF KENYA

MINISTRY OF EDUCATION

JUNIOR SECONDARY SCHOOL CURRICULUM DESIGN

PRE-TECHNICAL STUDIES
FOR LEARNERS WITH VISUAL IMPAIRMENTS

GRADE 7

KENYA INSTITUTE OF CURRICULUM DEVELOPMENT

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FOREWORD

Curriculum is a tool, which a country employs to empower its citizens. The Kenya Institute of Curriculum Development in meeting its core mandate *'to develop curriculum and curriculum support materials'* has spearheaded curriculum reforms in the education sector. The reforms are based on rigorous research, monitoring and evaluation activities conducted on the 8-4-4 system of education to inform the Competency-Based Curriculum through a phase-in phase-out model. The reforms were informed by the Summative Evaluation Survey (2009), Needs Assessment Study (2016) and the Task Force Report on Re-alignment of Education Sector (2012), 21st Century learning and approaches, the East African Protocol on harmonization of education, among many others.

The curriculum reforms aim at meeting the needs of the Kenyan society by aligning the curriculum to the Constitution of Kenya 2010, the Kenya Vision 2030 and the East African Protocol, among other policy requirements as documented by the Sessional Paper No. 1 of 2019 on 'Reforming Education and Training in Kenya for Sustainable Development'. The reforms adopted the Competency-Based Curriculum (CBC) to achieve development of requisite knowledge, skills, values and attitudes that will drive the country's future generations as documented by the Basic Education Curriculum Framework (BECF). Towards achieving the mission of Basic Education, the Ministry of Education has successfully and progressively rolled out curriculum implementation for Early Years Education, Grades 4 and 5. The roll out for Grade 6 and Junior Secondary (Grade 7-9) will subsequently follow.

It is my hope that the curriculum designs for Grade 7 will guide the teachers, among other education stakeholders, for progressive achievement of the curriculum vision, which seeks to have engaged, empowered and ethical citizens.

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PREFACE

The Government of Kenya embarked on the national implementation of the Competency Based Curriculum in January, 2019 for Early Years Education (Pre-Primary 1 and 2, and Lower Primary Grade 1, 2 and 3). The implementation progressed to Upper Primary (Grade 4, 5 and 6) based on the reorganisation of the Basic Education structure. Grade 7 curriculum furthers implementation of the Competency-Based Curriculum to Junior Secondary education level. This level marks the zenith of Middle School education whose main feature is to offer a broad opportunity for the learner to explore talents, interests and abilities before selection of pathways and tracks in Senior Secondary education level.

The Grade 7 curriculum designs for the respective learning areas will enable the development of 21st Century competencies. Ultimately, this will lead to the realisation of the vision and mission of the Competency-Based Curriculum as documented in the Basic Education Curriculum Framework (KICD, 2017).

It is my hope that all Government agencies among other stakeholders in education will use the designs to guide effective and efficient implementation of the learning activities as well as provide relevant feedback on various aspects of the curriculum. Successful implementation of the Grade 7 curriculum will be a significant milestone towards realization of the curriculum mission 'Nurturing Every Learner's Potential'.

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ACKNOWLEDGEMENT

The Kenya Institute of Curriculum Development (KICD) Act Number 4 of 2013 (Revised 2019) mandates the Institute to develop curricula and curriculum support materials for basic and tertiary education and training, below the university. The curriculum development process for any level involves thorough research, international benchmarking, and robust stakeholder engagement. Through this systematic and consultative process, KICD conceptualised the Competency Based Curriculum (CBC) as captured in the Basic Education Curriculum Framework (BECF). The CBC responds to the demands of the 21st Century and the aspirations captured in the Constitution of Kenya 2010, Kenya Vision 2030, East African Commission Protocol and the United Nations Sustainable Development Goals.

The Kenya Institute of Curriculum Development has developed the Grade 7 curriculum designs taking cognizance of the tenets of the CBC, key among them being the need to ensure that learners are provided with learning experiences that call for higher order thinking; thereby ensuring they become engaged, empowered and ethical citizens as articulated in the BECF Vision. The Grade 7 designs also provide opportunities for learners to develop the core competencies as well as engage in Community Service Learning. The designs present assessment rubrics linked to sub strands in the individual subjects. Teachers are encouraged to use varied assessment tools when assessing learners.

KICD obtains its funding from the Government of Kenya to enable the achievement of its mandate and implementation of the Government and Sector (Ministry of Education (MoE)) plans. The Institute also receives support from development partners targeting specific programmes. The Grade 7 curriculum designs have been developed with the support of The World Bank through The Kenya Secondary Education Quality Improvement Program (SEQIP) commissioned by the MoE. The Institute is grateful for the support accorded to the process by the Government of Kenya, through the MoE and the development partners for the policy, resource and logistical support.

I acknowledge the KICD curriculum developers and other staff, teachers and all the educators who participated, as panelists, in the development and adaptation of the designs. I also appreciate the contribution of the Semi-Autonomous Government Agencies (SAGAs) and representatives of various stakeholders for their various roles in the development of the Grade 7 curriculum designs.

My special thanks to the Cabinet Secretary, Ministry of Education; the Principal Secretary-, State Department of Early Learning and Basic Education; the Secretary, Teachers' Service Commission (TSC) and the Chief Executive Officer, Kenya National Examinations Council (KNEC) for their support in the process. Finally, I am grateful to the KICD Governing Council for their consistent guidance during the development of the curriculum designs. The Institute assures all curriculum implementers, parents, and other stakeholders that the designs will ensure effective implementation of the CBC at Grade 7.

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TIME ALLOCATION

	Subject	**Number of Lessons Per Week (40 minutes per lesson)**
1.	English	5
2.	Kiswahili/KSL	4
3.	Mathematics	5
4.	Integrated Science	4
5.	Health Education	2
6.	Pre-Technical Studies	4
7.	Social Studies	3
8.	Religious Education (CRE/IRE/HRE)	3
9.	Business Studies	3
10.	Agriculture	3
11.	Life Skills Education	1
12.	Physical Education and Sports	2
13.	Optional Subject	3
14.	Optional Subject	3
15.	**Total**	**45**

NATIONAL GOALS OF EDUCATION

Education in Kenya should:

i) **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 removing 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.

ii) **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

iii) **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.

iv) **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.

v) **Promote social equality 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.

vi) **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.

vii) **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.

viii. **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.

LEARNING OUTCOMES FOR MIDDLE SCHOOL

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

1. Apply literacy, numeracy and logical thinking skills for appropriate self-expression.
2. Communicate effectively, verbally and non-verbally, in diverse contexts.
3. Demonstrate social skills, spiritual and moral values for peaceful co-existence.
4. Explore, manipulate, manage and conserve the environment effectively for learning and sustainable development.
5. Practice relevant hygiene, sanitation and nutrition skills to promote health.
6. Demonstrate ethical behaviour and exhibit good citizenship as a civic responsibility.
7. Appreciate the country's rich and diverse cultural heritage for harmonious co-existence.
8. Manage pertinent and contemporary issues in society effectively.
9. Apply digital literacy skills for communication and learning.

ESSENCE STATEMENT

Pre-Technical Studies is a subject that prepares the learner with visual impairment for the Technical & Engineering and Career & Technology Studies (CTS), which are tracks in the Science, Technology, Engineering and Mathematics (STEM) pathway. It is anchored on the recommendations by Session Papers No 1 of 2005 and No 14 of 2012, which recommended the promotion of technical and vocational education with an emphasis on Science, Technology and Innovation (ST&I) in the school curriculum.

It builds on the competencies acquired in Science & Technology and other related learning areas at upper primary school. The subject equips the learner with foundational knowledge, skills, attitudes and values that are a prerequisite in order to specialise in subjects such as metalwork, woodwork, electricity, aviation technology, building construction, power mechanics, leatherwork, culinary arts, hairdressing & beauty therapy, marine & fisheries, manufacturing and media technology at senior school.

The Pre-Technical Studies subject equips the learner with visual impairment with exploration, imagination, creativity, innovation and hands-on skills through projects and practical activities. Learners develop interest in various apprenticeship fields and acquire hands-on skills as they are exposed to programs in industries. The skills are acquired as the teacher supports learners with visual impairments in the five strands including; safety, materials, tools, drawing and energy. The subject further equips the learners with safety skills as they work with tools and equipment. The curriculum design is adapted to make it accessible for learners with visual impairment. The adaptations are in forms of verbal descriptions of pictures and observable events, using digital devices with assistive technologies, manipulation of realia and tactile diagrams, and adapted tools, materials and equipment. The teacher is expected to ensure the learner is orientated in the working environment to enhance independence.

After completing junior secondary school, the learner may select either the Technical and Engineering or CTS track in the STEM pathway at senior school. In making this choice, the learner's interests, abilities and personality will be considered.

LEARNING OUTCOMES FOR PRE-TECHNICAL STUDIES

By the end of junior secondary, the learner should be able to;

1. Make informed and meaningful career choices in technical and career fields.
2. Apply competencies acquired in workshop safety to prevent accidents and save lives.
3. Use materials and safely dispose of waste to promote education for sustainable development.
4. Apply acquired drawing skills to communicate effectively.
5. Apply the acquired competencies to select, use and maintain tools, equipment and materials to support community-based projects.
6. Use available energy resources to solve problems in the community.

STRAND 1.0: SAFETY

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Questions
1.0 Safety	**1.1 Personal safety** (7 lessons)	By the end of the sub-strand, the learner should be able to; a) identify potential hazards relating to personal safety in day to day life, b) determine the general safety rules and regulations for a given task, c) observe safety to self and others while handling tools and equipment as they perform tasks in the locality, d) appreciate the role of safety in day to day life.	● Learners are guided to discuss the meaning of safety and relate potential hazards to personal safety in day-to-day life. ● Learners are guided to brainstorm on the potential hazards related to personal safety in day-to-day life (slippery floors, hanging windows, half open doors, sharp edges, sharp tools, open holes, naked electric wires, obstacles on pavements among others). ● Learners brainstorm and develop general safety rules and regulations for a given task. ● Learners with low vision visit a nearby workshop to observe tools and practice handling the tools safely. Learners with blindness visit a nearby workshop to manipulate the tools, listen to the description of how the tools are being used and practice using the tools safely. ● In groups of sighted learners and those with blindness, learners use the tools safely to perform a given task. ● Learners with low vision handle tools and equipment safely while performing simple tasks. Using own body demonstration, learners with blindness are guided to handle the tools and equipment safely while performing the tasks. ● Learners with low vision watch video clips while learners with blindness listen to video clips using digital devices with assistive technology on safety when handling tools and equipment.	1. Why is safety important? 2. How do you ensure safety when performing a task?

			• In groups or in pairs, learners explore various career opportunities related to safety. • Learners design and perform a task as they practice safety measures related to the task.	

Core Competencies to be developed:

- Communication and Collaboration as learners discuss and carry out-group activities.
- Citizenship as learners observe the safety of their peers when working in groups.
- Imagination and Creativity as learners improvise simple tools using locally available materials.

Pertinent and Contemporary Issues (PCIs):

- Disaster Risk Reduction is developed as learners perform tasks while observing self-safety and safety of their peers.
- Environmental protection is attained as learners properly dispose of waste materials in the process of practising safety of self, others, tools and equipment.

Values:

- Social justice is achieved as learners listen to and accord equal opportunities to peers to participate during group activities.
- Respect is developed as learners recognize the input of every member during discussions on the meaning of safety and relate potential hazards.
- Unity is achieved as learners embrace teamwork while using tools safely to perform a given task.
- Responsibility is developed as learners take good care of tools and equipment, and as they take up group leadership roles.

Links to other learning areas:

- Health Education as learners safely handle and properly dispose of waste materials in the community.

Suggested Modes of Assessment: Question and answer, self and peer assessment, observation, written assignments in braille and in print with appropriate colour contrast, font type and size.

Non-formal Activities to support Learning: Learners visit a nearby workshop in the locality to observe and list how workers practise safety as they perform tasks.

Suggested Learning Resources: Hand tools such as; chisels, hammers, screwdrivers, planes, career brochures and career magazines in print and in braille and digital devices with assistive technology, online resources.

Assessment Rubric				
Criteria	**Exceeds expectation**	**Meets expectation**	**Approaches expectation**	**Below expectation**
Identifying potential hazards in relation to personal safety.	Identifies potential hazards in relation to personal safety and explains how to avoid them.	Identifies the potential hazards in relation to personal safety.	States two potential hazards in relation to personal safety.	Names one potential hazard in relation to personal safety.
Determine the general safety rules and regulations for a given task.	Discusses the general safety rules and regulations for a given task and explains their benefits.	Determines the general safety rules and regulations for a given task.	Identifies two general safety rules and regulations for a given task.	State one general safety rule and regulations for a given task.
Observing safety to self and others while handling tools and equipment as they perform tasks.	Observes safety to self and others while handling tools and equipment as they perform tasks and further explains the dangers of not observing safety.	Observes safety to self and others while handling tools and equipment as they perform tasks.	Identifies two safety rules to observe while handling tools and equipment as they perform tasks.	Names one safety rule to observe while handling tools and equipment as they perform tasks.

Strand	**Sub-Strand**	**Specific Learning Outcomes**	**Suggested Learning Experiences**	**Key Inquiry Questions**
1.0 Safety	**1.2 Injuries** (5 lessons)	By the end of the sub-strand, the learner should be able to; a) identify types of injuries that may occur in the locality, b) identify causes of injuries that may occur in the locality, c) relate the type of injury and the corresponding first aid requirements,	● Learners discuss the meaning of injuries that may occur in the locality. ● Learners with low vision watch video clips on the types of injuries that occur in the locality. Learners with blindness listen to the video clip and are given verbal descriptions of the video clip. ● Learners with blindness to be provided with human dummies (doll) showing various injuries to tactually explore. ● In groups or in pairs, learners identify and discuss the causes of injuries (cuts, burns, scalds and minor fractures) at home, school, workshop and locality.	1. Why is it important to observe safety while working with tools in the locality? 2. How can we minimise injuries while working at home, school workshop or in the locality?

		d) apply safety measures to minimise injuries in the locality, e) recognize the careers related to first aid and management of injuries, f) appreciate the importance of observing safety to reduce injuries in day to day activities.	● In mixed groups of learners with blindness and learners with sighted, learners discuss ways of preventing cuts, burns, scalds and minor fractures. ● Learners visit health facilities to observe the careers related to the management of injuries. Learners with blindness to be paired with their sighted peers during the visit to listen to the descriptions of the activities taking place in the health facility related to management of injuries. ● Learners with low vision to role-play first aid procedures on management of cuts, burns, scalds and minor fractures using materials with appropriate colour contrast. Learners with blindness are paired with their sighted peers to role-play first aid procedures on management of cuts, burns, scalds and minor fractures. ● Learners discuss ways of reducing injuries while in school, workshops, at home or in the community. ● Learners explore and identify various careers related to first aid and management of injuries. ● Learners design and perform a task as they observe safety so as to reduce injuries in the day to day activities.	
Core Competencies to be developed: ● Critical Thinking and Problem Solving as learners come with ways of preventing cuts, burns, scalds and minor fractures. ● Self-efficacy as learners express themselves during role-playing on first aid and as they participate during group discussion various types of injuries that occur in the locality.				
Pertinent and Contemporary Issues (PCIs): ● Mental health is observed as learners engage in safe practices to avoid self-injuries and injuries of their peers in the locality.				

Values:

- Unity is achieved as learners embrace teamwork in groups as they identify and discuss the causes of injuries.
- Respect is developed as learners recognize the input of every member in the group
- Integrity is achieved as learners collect, use, care for and safely store items and equipment.

Links to other learning areas:

- Integrated Science as learners discuss how to perform first aid on cuts and bruises in the locality or work environment.

Suggested Modes of Assessment : Question and answer, observation, peer and self-assessment, written assignments in braille and in print with appropriate colour contrast, font type and size.

Non-formal Activities to support Learning: Learners visit a nearby health centre to observe and listen to verbal descriptions of cases of injuries related to hand tools.

Suggested Learning Resources: Workshop rules and regulations written in braille and in print with appropriate colour contrast, font size and type, First Aid kit, hand tools, digital devices with assistive technology and human dummies, online resources.

Assessment Rubric

Criteria	**Exceeds expectation**	**Meets expectation**	**Approaches expectation**	**Below expectation**
Identifying types of injuries that may occur.	Identifies types of injuries that may occur and explains how they are treated.	Identifies types of injuries that may occur.	States two types of injuries that may occur.	Recalls one type of injury that may occur.
Identifying causes of the injuries that may occur.	Identifies causes of the injuries that may occur and explains how to avoid them.	Identifies causes of the injuries that may occur.	States two causes of injuries that may occur.	States one cause of injury that may occur.
Identifying the types of injuries and the corresponding first aid requirements.	Identifies the types of injuries and the corresponding first aid requirements and further explains how to treat them.	Identifies the types of injuries and their Corresponding first aid requirements.	Identifies two types of injuries and their Corresponding first aid requirements.	Identifies one type of injuries and their Corresponding first aid requirements.
Applying safety measures to minimise injuries.	Applies safety measures to minimise injuries and supports peers.	Applies safety measures to minimise injuries.	Lists down the safety measures to minimise injuries.	Recalls one safety measure to minimise injuries.

STRAND 2.0: MATERIALS

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Questions
2.0 Materials	**2.1 Common materials** (9 lessons)	By the end of the sub-strand, the learner should be able to; a) identify the common materials found in the locality, b) categorise the common materials in the locality into metals and non-metals, c) distinguish metallic and non-metallic materials in the locality, d) describe the physical properties of common materials found in the locality, e) recognize career opportunities related to materials in the locality, f) embrace the importance of different materials found in the locality.	● Learners walk around the locality to identify, collect and record common metallic and non-metallic materials in the locality. Learners with blindness to be paired with sighted peers during the exercise. ● Learners with low vision use a chart with appropriate colour contrast, font type and size while learners with blindness use braille cards to list the common materials in the locality. ● Learners with low vision can collect, sort and distinguish metallic and non-metallic materials while learners with blindness are guided to tactually manipulate, collect, sort and distinguish metallic and non-metallic materials. ● In groups or in pairs, learners investigate and discuss the physical properties of materials (colour, texture, hardness, shape and fire resistance). ● Learners with low vision watch videos for categorization and identification of physical properties of materials while learners with blindness listen to videos of categorization and identification of physical properties of materials from digital devices with assistive technology. ● Learners tour the locality to identify the various careers related to the use of common materials. Learners with blindness are paired with their sighted peers during the tour. The peers give verbal explanations of the observable materials and events.	1. Why are materials important? 2. How do you distinguish metallic and non-metallic materials?

			● In groups or in pairs, learners share and discuss their experiences from the tour.	

Core competencies to be developed:

- Digital Literacy as learners watch and listen to video clips to identify the uses of various metals.
- Communication and Collaboration as learners work in groups and in pairs to investigate and discuss the physical properties of materials
- Critical Thinking and Problem Solving as learners distinguish metallic and non-metallic materials.

Pertinent and Contemporary Issues (PCI's):

- Self-awareness is achieved as learners identify, collect and record common metallic and non-metallic materials in the locality.
- Disaster Risk Reduction is realised as learners appreciate characteristics of materials they are using and classify them into safe and unsafe materials.

Values:

- Unity is achieved as learners embrace teamwork while working together in groups.
- Responsibility is developed as learners handle different materials while working and as they perform leadership roles in their groups.
- Respect is developed as learners acknowledge each other's contributions during group discussions and in other learning activities.

Links to other learning areas:

- Integrated Science as learners investigate the physical properties of metallic and non-metallic materials during group learning activities.

Suggested Modes of Assessment: Question and answer, peer and assessment, written assignments in braille and in print with appropriate colour contrast, font type and size.

Non-formal Activities to support Learning: Learners with low vision go round the compound and the nearby community and collect available materials. Learners with blindness are paired with their sighted peers to go round the compound and the nearby community to collect available materials. The sighted peers describe the colour and observable materials in the community.

Suggested Learning Resources: Stones, clay, sand, timber, sisal, ballast, grass, water, trees, minerals, metallic plates, metallic spoons, metallic cups, nails, steel wool, wires, digital devices with assistive technology, and online resources among others.

Assessment Rubric				
Criteria	**Exceeds Expectation**	**Meets Expectation**	**Approaches Expectation**	**Below Expectation**
Identifying the common materials.	Identifies the common materials and explains their uses.	Identifies the common materials.	Names two common materials.	Names one common material.
Categorising the common materials.	Classifies the common materials and explains their uses.	Categorises the common materials.	Identifies three common materials.	Recalls one common material.
Distinguishing metallic and non-metallic materials.	Compares metallic and non-metallic materials and mentions their uses.	Distinguishes metallic and non-metallic materials.	Sorts out two metallic and non-metallic materials.	Selects one metallic and one non-metallic material.
Describing the physical properties of the common materials.	Analyses physical properties of the common materials and explains their importance.	Describes the physical properties of the common materials.	States two physical properties of the common materials.	Names one physical property of the common materials.
Identifying career opportunities related to materials.	Outlines career opportunities related to materials and locates where they are found in the society.	Identifies career opportunities related to materials.	States two career opportunities related to materials.	Names one career opportunity related to materials.

Strand	**Sub-Strand**	**Specific Learning Outcomes**	**Suggested Learning Experiences**	**Key Inquiry Questions**
2.0 Materials	**2.2 Metals** (10 lessons)	By the end of the sub-strand, the learner should be able to; a) identify different types of metals in the locality, b) describe physical properties of ferrous and non-ferrous metals in the locality, c) identify the uses of metals in the locality, d) recognize careers related to use of metals,	● Learners develop a checklist for identifying different types of metals. ● Learners with low vision sort metals (as either ferrous or non-conductors of heat and electricity). Learners with blindness are guided to manipulate and sort metals (as either ferrous or non- conductors of heat and electricity). ● Learners with low vision watch video clips on the various types of	1. How do we use metals in the locality? 2. Why are metals important?

		e) appreciate the importance of metals in the locality.	metals. Learners with blindness to listen to video clips on the various types of metals from a digital device with assistive technology. ● In mixed groups of learners with sight and learners with blindness, learners discuss the various uses of metals in the locality. ● In mixed groups of learners with sight and learners with blindness, learners discuss careers related to metals under the guidance of a resource person(s).	
Core competencies to be developed: ● Digital Literacy as learners download, watch and listen to video clips to identify the uses of various metals. ● Communication and Collaboration as learners give or take instructions when working in groups and in pairs. ● Critical Thinking and Problem Solving as learners generate new ideas to distinguish ferrous and non-ferrous metals.				
Pertinent and Contemporary Issues (PCI's): ● Self-awareness is achieved as learners interact with the resource person(s) and manipulate learning resources in the locality. ● Disaster Risk Reduction is achieved as learners study the characteristics of metals and classify them into useful and non-useful metals.				
Values: ● Unity is achieved as learners embrace teamwork when performing specific tasks in pairs or in groups. ● Respect is developed as learners acknowledge each other's contribution during group discussions.				
Links to other learning areas: ● Integrated Science as learners group metals as either magnetic or non-magnetic. ● Computer Science as learners use digital media to search, download, watch and listen to video clips on types of metals.				
Suggested Modes of Assessment: Question and answer, peer and self-assessment, written assignments in braille and in print with appropriate colour contrast, font type and size.				
Non-formal Activities to support Learning: Learners with low vision visit a nearby workshop to observe and record how metals are used to make different gadgets. Learners with blindness are given verbal descriptions on how metals are used to make different gadgets and record with digital devices with assistive technology.				

Suggested Learning Resources: Metals, non-metals, career brochures, career magazines in braille and in print with appropriate colour contrast, font type and size and digital devices with assistive technology, online resources

Assessment Rubric				
Criteria	**Exceeds Expectation**	**Meets Expectation**	**Approaches Expectation**	**Below Expectation**
Identifying different types of metals.	Analyses the different types of metals and states their uses.	Identifies the different types of metals.	Names two different types of metals.	Names one type of metal.
Describing physical properties of ferrous and non-ferrous metals.	Distinguishes the physical properties of ferrous and non-ferrous metals and states their importance.	Describes the physical properties of ferrous and non-ferrous metals.	States two physical properties of ferrous and non-ferrous metals.	States one physical property of ferrous and non-ferrous metals.
Identifying the uses of metals.	Explains the uses of metals.	Identifies the uses of metals.	States three uses of metals.	Lists two uses of metals.

Strand	**Sub-Strand**	**Specific Learning Outcomes**	**Suggested Learning Experiences**	**Key Inquiry Questions**
2.0 Materials	**2.3 Non-metallic materials** (10 lessons)	By the end of the sub-strand, the learner should be able to; a) distinguish between synthetic and natural non-metallic materials, b) categorise the non-metallic materials as either synthetic or natural non-metallic materials, c) describe physical properties of non-metallic materials in the locality, d) identify the uses of non-metallic materials in the locality,	● Learners research and develop a checklist for classifying non-metallic materials into synthetic or natural non-metallic materials. ● Learners with low vision sort non-metallic materials as either synthetic or natural. Learners with blindness tactually manipulate and sort non-metallic materials as either synthetic or natural. ● Learners with low vision watch video clips on the various non-metallic materials. Learners with blindness listen to video clips on the various	1. How are synthetic materials different from natural non-metallic materials? 2. Why are non-metallic materials important?

		e) recognize career opportunities related to the processing and use of non-metallic materials.	non-metallic materials from a digital device with assistive technology. ● In groups or pairs, learners discuss various uses of non-metallic materials in the locality. ● In groups, discuss careers related to non-metallic materials under the guidance of resource person(s).	
	Project activity1 (12 lessons**)**	By the end of the sub-strand, the learner should be able to; a) identify a problem in their community which requires a solution using skills in the technical fields, b) describe how the problem affects the community, c) identify skills needed to solve the problems in the community.	● Learners point out and discuss the existing problems in their community that require a solution using skills in the technical fields. ● Learners listen to life testimonies and moral stories the community requires to solve the problems using the technical skills from a resource person ● Learners suggest the technical skills that may be required to solve a problem in the community.	1. How do you identify a problem in the community? 2. How can you solve a problem in the community using technical skills?
Core competencies to be developed: ● Digital Literacy as learners watch and listen to video clips to identify the properties of various non-metallic materials. ● Communication and Collaboration as learners take instructions and share their ideas during discussion in groups or in pairs. ● Critical Thinking and Problem Solving as learners distinguish different non-metallic materials.				
Pertinent and Contemporary Issues (PCI's): ● Self-awareness is achieved as learners interact with resource persons(s) and as they manipulate learning resources. ● Disaster Risk Reduction is attained as learners study the characteristics of non-metallic materials and classify them into useful or non-useful materials.				
Values: ● Unity is achieved as learners work together in pairs and in groups discussing careers related to no-metallic materials. ● Respect is developed as learners acknowledge each other's contribution and give equal opportunities during group discussions.				

Links to other learning areas;

- Science and Technology as learners group non-metallic materials as either natural or synthetic.
- Computer Science as learners use digital media to search, download, watch and listen to video clips on the physical properties of non-metallic materials.
- English language as learners use the language while discussing features of non-metallic materials and as they give or listen to instructions.

Suggested Modes of Assessment:
Question and answer, peer and self-assessment, written assignments in braille and in print with appropriate colour contrast, font type and size and projects.

Non-formal Activities to support Learning: Learners with low vision visit a nearby workshop to observe and record how non-metallic and synthetic materials are used to make different gadgets. Learners with blindness are given verbal descriptions on how to use non-metallic and synthetic materials.

Suggested Learning Resources: Non-metals, synthetic materials, career brochures and career magazines in braille and in print with appropriate colour contrast, font type and size and digital devices with assistive technology (computer, laptop, smartphone, tablets), online resources, resource person(s).

Assessment Rubric

Criteria	**Exceeds Expectation**	**Meets Expectation**	**Approaches Expectation**	**Below Expectation**
Distinguishing between synthetic and natural non-metallic materials.	Distinguishes between synthetic and natural non-metallic materials and gives examples.	Distinguishes between synthetic and natural Non-metallic materials.	States two differences between synthetic and natural non-metallic materials.	Names one synthetic or one natural non-metallic material.
Categorising the non-metallic materials as either synthetic or natural non-metallic materials.	Classifies the non-metallic materials as either synthetic or natural non-metallic materials and gives examples.	Categorises the non-metallic materials as either synthetic or natural non-metallic materials.	States two non-metallic materials as either synthetic or natural non-metallic materials.	Names one non-metallic material as either synthetic or natural non-metallic material.
Describing physical properties of non-metallic materials.	Analyses the physical properties of non-metallic materials and further states their importance.	Describes the physical properties of non-metallic materials.	Identifies two physical properties of non-metallic materials.	Recalls one physical property of Non-metallic materials.

Identifying the uses of Non-metallic materials.	Discusses the uses of non-metallic materials and relates them to career opportunities.	Identifies the uses of Non-metallic materials.	States two uses of non-metallic materials.	States one use of non-metallic materials.
Identifying career opportunities related to non-metallic materials.	Analyses career opportunities related to non-metallic materials and locate where they are practised in the community.	Identifies career opportunities related to non-metallic materials.	Lists two career opportunities related to non-metallic materials.	Names one career opportunity related to non-metallic materials.

STRAND 3.0: TOOLS

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Questions
3.0 Tools	**3.1 Household hand tools** (9 lessons)	By the end of the sub-strand, the learner should be able to; a) identify household hand tools in the locality, b) categorise household hand tools according to their uses, c) use household hand tools to perform given tasks correctly, d) care and maintain household hand tools appropriately after use, e) recognize the careers related to household hand tools, f) appreciate the roles of household hand tools in the community.	● Learners with low vision use realia and visual aids to identify household hand tools used in the locality. Learners with blindness tactually explore the realia to identify household hand tools used in the locality. ● Learners with low vision watch video clips, and observe charts with appropriate colour contrast, font type and size on household hand tools. Learners with blindness listen to video clips and verbal descriptions on the charts on household hand tools. ● Learners with low vision draw and categorise household hand tools according to uses. Learners with blindness model and categorise household hand tools according to uses. ● In mixed groups of learners with sight and learners with blindness, learners role-play safe uses and storage of household hand tools. ● In groups, learners discuss the proper care, maintenance and safe storage of household hand tools. ● In mixed groups of learners with sight and learners with blindness, learners practice the proper care, maintenance and safe storage of household hand tools. ● In groups learners discuss careers related to household hand tools	1. How do you categorise household hand tools? 2. Why are household tools important?

			● Learners collaborate with teachers, parents and guardians to perform simple tasks using household hand tools. ● Using own body demonstration, learners with blindness are guided on how to use the household hand tools safely while taking care of themselves and the peers around them.	
Core competencies to be developed: ● Communication and Collaboration as learners discuss uses of household hand tools in the locality. ● Critical Thinking and Problem Solving as learners choose the household hand tools to solve a problem in the community. ● Digital Literacy as learners use digital devices to categorise household hand tools. ● Citizenship as learners display and discuss the items made to solve a problem in the community.				
Pertinent and Contemporary Issues (PCI's): ● Environmental protection is achieved as learners use household tools to perform tasks correctly and how to take care and maintain them.				
Values: ● Responsibility is developed as learners take care of household hand tools in the locality. ● Love is developed as learners share materials as they practice use of household hand tools.				
Links to other learning areas: ● Computer Science (ICT applications) as learners download, watch and listen to video clips on uses of household hand tools. ● Home Science as learners clean and store household hand tools appropriately.				
Suggested Modes of Assessment: Question and answer, observation, peer and self-assessment, written assignments in braille and in print with appropriate colour contrast, font type and size.				
Non-formal Activities to support Learning: Learners visit a nearby home to observe, listen and record how household hand tools are used in the family and the community.				
Suggested Learning Resources: Household hand tools and materials, career brochures and career magazines in braille and in print with appropriate colour contrast , font type and size on household hand tools and digital devices with assistive technology (computer, laptop, smartphone, tablets), online resources, water, mop or cleaning rags,				

Assessment Rubric				
Criteria	**Exceeds expectation**	**Meets expectation**	**Approaches expectation**	**Below expectation**
Identifying household hand tools.	Identifies household hand tools and further explains their uses.	Identifies the household hand tools.	Names three household hand tools.	Names one household hand tool.
Categorising household hand tools according to the uses.	Classifies household hand tools according to the uses and states their importance.	Categorises the household hand tools according to the uses.	Identifies three household hand tools according to the uses.	Matches one household hand tool according to its use.
Using household hand tools to perform given tasks correctly.	Uses household hand tools to perform given tasks and explain their dangers when not used appropriately.	Uses household hand tools to perform given tasks correctly.	Identifies two household hand tools to perform given tasks correctly.	Names one household hand tool to perform given tasks.
Taking care of and maintaining household hand tools appropriately after use.	Takes care of and maintains the household hand tools after use and explains the importance of maintaining the tools.	Takes care of and maintains household hand tools appropriately after use.	Takes care of and maintains two household hand tools appropriately after use.	Takes care of and maintains one household hand tools after use

Strand	**Sub Strand**	**Specific Learning Outcomes**	**Suggested Learning Experiences**	**Key Inquiry Questions**
3.0 Tools	**3.2 Farming hand tools** (10 lessons)	By the end of the sub-strand, the learners should be able to; a) identify farming hand tools in the locality, b) categorise farming hand tools according to their uses, c) use farming hand tools safely to perform given tasks, d) care and maintain farming hand tools appropriately after use,	● Learners with low vision use realia and visual aids to identify farming hand tools used in the locality. Learners with blindness manipulate realia to identify farming tools in the locality. ● Learners with low vision watch video clips and observe charts with appropriate colour contrast font type and size on farming hand tools. Learners with blindness listen to video clips and verbal descriptions of charts on farming hand tools. ● Learners with low vision to draw and categorise farming hand tools according to use.	1. Why are farming hand tools important? 2. How can you use farming hand tools correctly?

		e) recognize the careers related to farming hand tools, f) appreciate the importance of farming tools in the ommunity.	Learners with blindness model and categorise farming hand tools according to uses. ● Learners with low vision practice safe use of farming hand tools. Learners with blindness use one to one demonstration to practice safe use of farming hand tools. ● In mixed groups of learners with sight and learners with blindness, learners discuss the proper care, maintenance and safe storage of farming hand tools. ● Learners with low vision observe and relate farming hand tools to careers. Learners with blindness tactually explore and relate the farming hand tools to careers. ● Learners to collaborate with teachers, parents and guardians to perform simple tasks using farming hand tools.	
	Project activity 2 (12 lessons).	By the end of the sub-strand, the learner should be able to; a) suggest an item that may solve the problem identified in the project activity 2, b) design the item that may solve the problem identified in project activity 2, c) prepare a cost estimate for the designed item.	● Learners with low vision visual aids to design items that may solve the problem identified in the project activity 2. ● Learners with blindness manipulate realia and use them to design items that may solve the problems identified in project activity 2. ● Learners are guided to prepare a cost estimate for the designed items.	1. How do you design items to solve problems identified in projects in your community?
Core competencies to be developed: ● Communication and Collaboration as learners discuss uses of farming hand tools in the locality.				

● Critical Thinking and Problem Solving acquired as learners choose the farming hand tools to solve a problem in the community. ● Digital Literacy as learners use digital devices to categorise tools. ● Citizenship as learners display and discuss the items made to solve a problem in the community. ● Learning to Learn as learners search for information on farming hand tools from video clips.
Pertinent and Contemporary Issues (PCI's) ● Environmental protection is achieved as learners use farming hand tools to perform good farming practices.
Values: ● Responsibility is developed as learners take care of farming hand tools in the locality and as they perform leadership during group activities. ● Love is developed as learners share learning resources as they practice uses of farming hand tools. ● Respect is developed as learners recognize the contribution of every member during group discussions.
Links to other learning areas: ● Agriculture as learners practice care and maintenance of farming hand tools. ● Computer Science (ICT applications) as learners watch and listen to video clips on how farm tools are categorised.
Suggested Modes of Assessment: Question and answer, observation, peer and self-assessment, written assignments in braille and in print with appropriate colour contrast, font size and type, project.
Non-formal Activities to support Learning: Learners with low vision visit a nearby home to observe how farming hand tools are used in the family and community. Learners with blindness are paired with their sighted peers, visit a nearby home and are given verbal descriptions on how farming hand tools are used in the family and the community.
Suggested Learning Resources: Career brochures and career magazines in print and braille with appropriate colour contrast and font size, digital devices with assistive technology, online resources, among others.

Assessment Rubric				
Criteria	**Exceeds expectation**	**Meets expectation**	**Approaches expectation**	**Below expectation**
Identifying farming hand tools in the locality.	Identifies farming hand tools and explains how they are used.	Identifies the farming hand tools.	Names three farming hand tools.	Names one farming hand tool.
Categorising farming hand tools according to the uses.	Categorises farming hand tools according to the uses and further explains why the tools should be put to their intended use only.	Categorises farming hand tools according to the uses.	Names three farming hand tools according to the uses.	Names one farming hand tool according to the use.

Using farming hand tools safely to perform given tasks.	Uses farming hand tools safely to perform given tasks and supports others.	Uses farming hand tools safely to perform given tasks.	Uses two farming hand tools safely to perform given tasks.	Uses one farming hand tool safely to perform given tasks.
Taking care and maintaining farming hand tools appropriately after use.	Cares for and maintains farming hand tools after use and explains why it is important to care and maintain the tools.	Cares for and maintains farming hand tools appropriately after use.	Cares for and maintains two farming hand tools appropriately after use.	Cares for and maintains one farming hand tool after use.

STRAND 4.0: DRAWING

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Questions
4.0 Drawing	**4.1 Types of drawings** (5 lessons).	By the end of the sub strand, the learner should be able to; a) identify different types of drawings used in the technical fields, b) distinguish between artistic and technical drawings, c) describe the use of artistic and technical drawings in different fields, d) recognize the application of drawings in various careers, e) appreciate the importance of drawing in day to day life.	● Learners research and identify different types of drawings used in the technical fields. ● Learners with low vision use digital images and charts with appropriate colour contrast, font type and size, to distinguish between artistic and technical drawings. Learners with blindness listen to verbal descriptions of digital images and charts to distinguish between artistic and technical drawings. ● Learners with low vision use video clips to discuss the use of artistic and technical drawings. Learners with blindness listen to the video clips and discuss uses of artistic and technical drawings. Learners with blindness are presented with simple embossed artistic drawings and simple embossed technical drawings to manipulate and distinguish. ● In mixed groups of learners with sight and learners with blindness, learners discuss careers related to uses of drawings under the guidance of a resource person(s). ● Learners identify objects at home, school or in the community where the drawings have been used.	1. How are drawings used in various careers? 2. Why are drawings important in our day to day lives?
Core competencies to be developed: ● Communication and Collaboration as learners discuss careers related to the use of drawings. ● Digital Literacy as the learners use video clips to describe the artistic and technical drawing. ● Critical Thinking and Problem Solving as learners relate the application of drawings to the environment.				
Pertinent and Contemporary Issues (PCI's): ● Decision making skill is realised as learners effectively use drawing instruments.				

● Mental health is attained as learners work in groups and pairs and accommodate each other's contribution without shouting them down.
Values: ● Respect is achieved as learners recognize the contribution of every member in group discussions.
Links to other learning areas: ● Visual Art as learners identify various types of drawings. ● Computer Science as learners watch video clips to describe the use of artistic and technical drawings.
Suggested Modes of Assessment: Question and answer, peer and self-assessment, observation, written assignments in braille and in print with appropriate colour contrast, font type and size, project.
Non-formal Activities to support Learning: Learners visit a nearby workshop to observe, manipulate, listen to and record how different types of drawings are done and how they are used in the family and community.
Suggested Learning Resources: Drawing charts in braille and in print with appropriate colour contrast, font type and size, drawing papers or books, career brochures and career magazines in braille and in print with appropriate colour contrast, font type and size, digital devices with assistive technology (computer, laptop, smartphone, and tablets), online resources.

Assessment Rubric				
Criteria	**Exceeds expectation**	**Meets expectation**	**Approaches expectation**	**Below expectation**
Identifying various types of drawings.	Identifies various types of drawings and tell the differences.	Identifies the various types of drawings.	Identifies two types of drawings.	Names one type of drawing.
Distinguishing between artistic and technical drawings.	Analyses the differences between artistic and technical drawings and supports others.	Distinguishes between artistic and technical drawings.	Names two attributes to distinguish between artistic and technical drawings.	Names one attribute to distinguish between artistic and technical drawings.
Describing the uses of artistic and technical drawing as used in various fields.	Describes uses of artistic and technical drawing as used in various fields and explains their importance.	Describes the uses of artistic and technical drawing as used in various fields.	States two uses of artistic and technical drawing as used in various fields.	Name one use of artistic and technical drawing as used in various fields.

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Questions
4.0 Drawing	**4.2 Drawing instruments and equipment** (5 lessons).	By the end of the sub strand, the learner should be able to; a) identify drawing instruments and equipment in technical drawing, b) describe the use of drawing instruments and equipment in technical drawing, c) draw lines and shapes using drawing instruments and equipment, d) practice proper care and maintenance of drawing instruments and equipment, e) appreciate the use of drawing instruments and equipment in various careers.	● Learners with low vision identify, draw and name the various drawing instruments and equipment. Learners with blindness tactually explore various drawing instruments and equipment. ● Learners with blindness use spur wheel, slate and stylus and a soft board to draw and name the various drawing instruments and equipment. ● Learners with low vision use realia and video clips to discuss uses of various drawing instruments and equipment. Learners with blindness manipulate realia and listen to video clips of various drawing instruments and equipment. ● In mixed groups of learners with blindness and those with sight, learners discuss the uses of various drawing instruments and equipment. ● Learners use appropriate drawing instruments to draw given lines and shapes. ● In mixed groups of learners with low vision and learners with blindness, learners discuss how to care for and maintain drawing instruments and equipment. ● Learners with low vision watch video clips on uses of drawing instruments and equipment in various careers. Learners with blindness listen to video clips on uses of drawing instruments and equipment in various careers.	1. How are drawing instruments and equipment used? 2. Why is it important to care for and maintain drawing instruments and equipment?
Core competencies to be developed: ● Communication and Collaboration as learners hold groups discussion on various drawing instruments and equipment. ● Learning to Learn as learners use and maintain technical drawing instruments.				

● Digital Literacy as the learners search information, watch and listen to video clips on uses of drawing instruments and equipment in various careers.
Pertinent and Contemporary Issues (PCI's): ● Decision-making is achieved as learners effectively use drawings. ● Mental health is realised as learners work in groups and as individuals while avoiding anti-social behaviour like aggression.
Values: ● Responsibility is achieved as learners take care of drawing instruments and as they perform leadership roles during group activities. ● Integrity is achieved as learners make good use of the drawing instruments. ● Respect is achieved as learners recognize the contribution of every member in group discussions.
Links to other learning areas: ● Visual Arts as learners draw and name various drawing instruments. ● Computer Science as learners watch and listen to video clips so as to discuss construction of shapes.
Suggested Modes of Assessment: Question and answer, observation, peer and self-assessment, written assignments in braille and in print with appropriate colour contrast, font type and size, project.
Non-formal Activities to support learning: Learners visit a nearby workshop of a Technical and Vocational Educational Training (TVET) institution to observe, manipulate and record how drawing instruments and equipment are cared for, maintained and used in the family and community.
Suggested Learning Resources: Drawing tables, surfaces, soft boards, drawing papers or books, pencils, spur wheel or stylus T-squares, drawing instruments graduated in braille and those with print done in contrasting colours, ruler or straight edge, set squares, career brochures and career magazines in braille and in print with appropriate colour contrast, font type and size, online resources.

Assessment Rubric				
Criteria	**Exceeds expectation**	**Meets expectation**	**Approaches expectation**	**Below expectation**
Identifying instruments and equipment.	Identifies drawing Instruments and equipment and explains how they are used.	Identifies the drawing instruments and equipment.	Identifies two drawing instruments and equipment.	Names one drawing instrument or one drawing equipment.
Describing the uses of drawing instruments and equipment.	Analyses the uses of drawing instruments and equipment	Describes the uses of drawing instruments and equipment.	States two uses of drawing instruments and equipment.	States one use of a drawing instruments or equipment.

Drawing lines and shapes using drawing instruments and equipment.	Draws lines and shapes using drawing instruments and equipment and further shades them.	Draws the lines and shapes using drawing instruments and equipment.	Draws two lines and two shapes using drawing instruments and equipment.	Draws a line and a shape using drawing instruments and equipment.
Caring for and maintaining drawing instruments and equipment.	Cares for and maintains drawing instruments and equipment and explains how they are used.	Cares for and maintains the drawing instruments and equipment.	Cares for and maintains two drawing instruments and equipment.	Cares for and maintains a drawing instrument and an equipment.

Strand	**Sub-Strand**	**Specific Learning Outcomes**	**Suggested Learning Experiences**	**Key Inquiry Questions**
4.0 Drawing	**4.3 free-hand sketching** (10 lessons).	By the end of the sub strand, the learner should be able to; a) sketch lines using free-hand, b) sketch two-dimensional shapes using free-hand, c) learner with low vision sketch still life objects in perspective drawing, d) learner with blindness mould objects and arrange them in still life objects in perspective drawing, e) recognize the use of free-hand sketches in expression of artistic ideas in different career fields,	● Learners with low vision use pencils and drawing papers to sketch lines. Learners with blindness use spur wheel or stylus, soft board and braille paper to sketch lines. ● Learners with low vision use pencils and drawing papers to sketch two-dimensional shapes. ● Learners with blindness are given different block shapes to manipulate and further presented with tactile diagrams in two dimensions to explore. ● In groups learners discuss the about the block shapes to identify the dotted or hidden lines in two-dimensional drawing ● Learners with blindness use spur wheel or stylus, soft board and braille paper to sketch two-dimensional shapes. ● Learners with low vision use realia to sketch still life objects. Learners with blindness manipulate a still life arrangement to conceptualise perspective. ● Learners with blindness tactually manipulate realia of still life objects	1. Why is free hand sketching important? 2. How can you sketch a two-dimensional shape using free hand?

		f) appreciate the importance of free-hand sketching in day to day life.	● Learners with blindness are guided to mould the objects and place them in still life arrangements. ● Learners with low vision use digital media to observe how free-hand sketches express artistic ideas in different career fields. Learners with blindness use digital media with assistive technology to listen to descriptions of how free-hand sketches express artistic ideas in different career fields. ● Learners with low vision take photos of the sketches and drawings for the development of portfolios. ● Learners with blindness are supported by sighted peers to take photos of the sketches and drawings and listen to verbal descriptions of the photos for the development of portfolios.	
Core competencies to be developed: ● Communication and Collaboration as learners discuss in groups to conceptualise the dotted or hidden lines. ● Learning to Learn as learners use free-hand sketches to communicate. ● Digital Literacy as learners take photographs using digital devices with assistive technologies. ● Critical Thinking and Problem Solving as learners discuss and make free-hand sketches.				
Pertinent and Contemporary Issues (PCI's): ● Decision-making is developed as learners select and effectively use drawing instruments. ● Mental health is attained as learners actively work in groups and as individuals while avoiding anti-social behaviours like withdrawal.				
Values: ● Responsibility is developed as learners take care of drawing instruments being used. ● Respect is developed as learners recognize the contribution of every member in group discussions.				
Links to other learning areas: ● Visual Arts as learners draw objects using free-hand sketches.				
Suggested Modes of Assessment: Question and answer, observation, written assignments in braille and in print with appropriate colour contrast, font type and size, project.				

Non-formal Activities to support Learning: Learners visit a nearby fine art or cultural centre to observe, listen to and record how free-hand sketches are done and how they are used in the family and community.
Suggested Learning Resources: Drawing tables, surfaces, soft boards, drawing papers or books, pencils, spur wheel or stylus, career brochures and career magazines in braille and in print with appropriate colour contrast, font type and size, digital devices with assistive technology (computer, laptop, smartphone, tablets and samples of free-hand sketches of two-dimensional shapes, online resources.

Assessment Rubric				
Criteria	**Exceeds expectation**	**Meets expectation**	**Approaches expectation**	**Below expectation**
Sketching lines using free hand.	Sketches lines using free hand and supports others.	Sketches lines using free hand.	Sketches two lines using free hand.	Sketches a line-using free hand.
Sketching two-dimensional shapes using free hand.	Sketches two-dimensional shapes using free hand and explain to peers how it is done.	Sketches two-dimensional shapes using free hand.	Sketches two-dimensional shapes using free-hand with inaccurate measurements..	Sketches an unproportioned two-dimensional shape-using free hand.
Sketching still life objects in perspective drawing.	The learner with low vision sketches still life objects in several perspective drawings.	The learner with low vision sketches still life objects in perspective drawing.	The learner with low vision sketches two still life objects in perspective drawing.	The learner with low vision sketches a still life object in perspective drawing.
Moulding and arranging still life objects in perspective drawing.	The learner with blindness moulds and arranges still life objects in perspective drawing and supports others.	The learner with blindness moulds and arranges still life objects in perspective drawing.	The learner with blindness moulds and arranges two still life objects in perspective drawing.	The learner with blindness moulds and places one still life object in perspective drawing.

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Questions
4.0 Drawing	**4.4 Geometrical construction** (10 lessons).	By the end of the sub strand, the learner should be able to; a) construct different angles in plane geometry, b) construct different types of quadrilaterals in plane geometry, c) construct different types of circles in plane geometry, d) construct combined shapes in plane geometry, e) construct outlines of a simple combined shapes in plane geometry, f) identify different career fields where the knowledge of geometrical construction could be applied in the locality, g) appreciate the importance of geometrical construction in everyday life.	● Learners with low vision use video clips and visual aids to discuss how to construct different geometrical shapes. Learners with blindness use video clips with assistive technology to discuss how to construct different geometrical shapes. ● Learners with low vision practice construction of different angles and triangles in plane geometry. Learners with blindness practice simple constructions of different angles and triangles in plane geometry using braille graduated instruments. ● Learners with low vision practice construction of quadrilaterals in plane geometry. ● Learners with blindness practice simple construction of quadrilaterals in plane geometry using braille graduated instruments. ● Learners with low vision practice construction of circles in plane geometry. ● Learners with blindness practice constructions of circles in plane geometry using braille graduated instruments. ● Learners with low vision practice constructions of combined shapes. Learners with blindness are given a tactile diagram of a combined shape to manipulate Learners with blindness practice drawing of simple combined shapes using braille-graduated instruments. ● In mixed groups of sighted and learners with blindness, learners discuss how to apply geometry in different career fields.	1. How are geometric construction drawings done? 2. How can you apply geometrical construction in day to day life?

			● Learners are guided to construct objects found at school, home and in the community using geometric construction.	
	Project activity 3 (13 Lessons).	By the end of the sub-strand, the learner should be able to; a) identify the materials for making the item designed in project activity 3, b) gather the materials for making the item designed in project activity 3, c) store the prepared materials for making the item designed in project activity 3.	● Learners with low vision use visual aids to observe and pick out the materials used to make the item designed in project activity 3. ● Learners with blindness tactually explore the materials and pick out the materials used to make the item designed in project activity 3. ● Learners find and collect the materials chosen and keep the collected materials safely.	How do you select suitable materials for making items to solve the problems in your community?
Core competencies to be developed: ● Communication and Collaboration as learners discuss in groups and pairs on application of geometry in different career fields. ● Digital Literacy as learners listen and watch video clips on how to construct different geometrical shapes ● Critical Thinking and Problem Solving as learners relate the application of plane geometry to different careers.				
Pertinent and Contemporary Issues (PCI's): ● Decision-making is developed as learners effectively use drawing instruments. ● Mental health is attained as learners work as groups and as individuals.				
Values: ● Responsibility is developed as learners take care of drawing instruments and as they take up group leadership roles. ● Respect is developed as learners recognize the contribution of every member in group discussions.				
Links to other learning areas: ● Visual Arts as learners draw plane figures when working in groups or as individuals. ● Agriculture as learners draw farm tools and equipment. ● Mathematics as learners perform geometrical construction.				
Suggested Modes of Assessment: Question and answer, observation, peer and self-assessment, project, written assignments in braille and in print with appropriate colour contrast, font type and size.				

Non-formal Activities to support Learning: Learners visit a nearby workshop or a Technical and Vocational Education Training (TVET) institution to observe, manipulate and record how geometrical construction is done and how it is used in the family and community.				
Suggested Learning Resources: Drawing tables or surfaces, soft boards, drawing papers or books, pencils, spur wheels or stylus, T-squares, drawing instruments graduated in braille and those with print done in contrasting colours, ruler or straight edges, set squares, career brochures and career magazines in braille and in print with appropriate colour contrast, font type and size, digital devices with assistive technology, online resources.				
Assessment Rubric				
Criteria	**Exceeds expectation**	**Meets expectation**	**Approaches expectation**	**Below expectation**
Constructing angles in plane geometry.	Constructs angles in plane geometry and supports others.	Constructs angles in plane geometry.	Constructs angles in plane geometry with one inaccurate angle.	Constructs angles in plane geometry with two inaccurate angles
Constructing triangles and quadrilaterals in plane geometry.	Constructs and analyses triangles and quadrilaterals in plane geometry and supports others.	Constructs triangles and quadrilaterals in plane geometry.	Constructs triangles and quadrilaterals in plane geometry with one inaccurate angel..	Constructs triangles and quadrilaterals in plane geometry with two or more inaccurate angles.
Constructing circles in plane geometry.	Analyses, constructs, and circles in plane geometry.	Constructs circles in plane geometry.	Constructs circles in plane geometry with inaccurate measurements.	Draws circles in plane geometry.
Constructing circles in plane geometry.	Constructs simple circles in plane geometry and supports others.	Constructs simple circles in plane geometry.	Constructs simple circles in plane geometry and misses few details.	Constructs one simple circle in plane geometry and misses most of the details..
Constructing combined shapes in plane geometry.	Constructs combined shapes in plane geometry and supports others.	Constructs combined shapes in plane geometry.	Constructs two combined shapes in plane geometry.	Draws two combined shapes in plane geometry.
Constructing outlines of simple combined shapes in plane geometry.	Constructs outlines of simple combined shapes in plane geometry and supports others.	Constructs outlines of simple combined shapes in plane geometry.	Constructs outlines of a simple combined shape in plane geometry and misses few details.	Draws one outline of a simple combined shape in plane geometry.
Identifying different career fields where the knowledge of geometrical construction could be applied.	Identifies different career fields where the knowledge of geometrical construction could be applied and state their benefits.	Identifies different career fields where the knowledge of geometrical construction could be applied.	Identifies two career fields where the knowledge geometrical construction could be applied.	Identifies one career field where the knowledge geometrical construction could be applied.

STRAND 5.0: ENERGY RESOURCES

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Questions
5.0 Energy Resources	**5.1 Sources of energy** (5 lessons).	By the end of the sub-strand, the learner should be able to; a) identify the sources of energy within the locality, b) classify the sources of energy in the locality as either renewable or non-renewable, c) discuss the advantages and disadvantages of different sources of energy in the locality, d) identify different careers which are related to energy in the locality, e) appreciate the importance of energy in our lives.	● In groups, learners discuss the concept of energy. ● Learners identify the different sources of energy within the locality. ● Learners with low vision use digital devices to explore other sources of energy. ● Learners with blindness use digital devices with assistive technology to explore other sources of energy. ● Learners with low vision use flash cards to group various sources of energies as either renewable or non-renewable. Learners with blindness use braille flash cards to group various sources of energies as either renewable or non-renewable. ● In groups, learners discuss the advantages and disadvantages of the different sources of energy. ● Learners with low vision use digital devices to research the skills required for a particular source of energy. Learners with blindness use digital devices with assistive technology to research on the skills required for particular energy related careers. ● Learners tour the locality to observe and record the various careers related to energy. Learners with blindness are paired with their sighted peers during the tour	1. How do we classify sources of energy? 2. Why is energy important to our daily lives?

			● In groups, learners discuss how important energy is to our everyday life.	

Core competencies to be developed:

- Communication and Collaboration as learners discuss the sources of energy in the locality.
- Critical Thinking and Problem Solving as learners identify sources of energy in the locality.
- Creativity and Imagination as learners come up with advantages and disadvantages of different sources of energy.
- Digital Literacy as learners research on the skills required for particular energy related careers using digital devices.
- Self-efficacy as learners express themselves during group discussions on the importance of energy in our everyday life.

Pertinent and Contemporary Issues (PCIs):

- Environmental awareness is developed as learners identify various sources of energy that are friendly to the environment.
- Disaster Risk Reduction is developed as learners identify the safe sources of energy for their own safety, safety of others and safety of the environment.

Values:

- Responsibility is developed as learners take good care of learning sources and as they take group leadership roles.
- Patriotism is achieved as learners take care of the environment by appreciating the sources of energy within the environment.
- Unity is developed as learners embrace teamwork as they carry out learning activities together.
- Respect is developed as learners recognize each other's contribution during group activities.

Links to other learning areas:

- Computer Science (ICT application) as learners search for information on the internet, watch and listen to video clips.
- Integrated Science as learners discuss the different sources of energy.
- Life Skills as learners tour the locality to observe listen and record various careers related to energy.

Suggested Modes of Assessment: Question and answer, observation, peer and self-assessment, project, written assignments in braille and in print with appropriate colour contrast, font type and size.

Non-formal Activities to support Learning: Learners visit a nearby source of energy to observe, listen to and record how energy is generated and used in the family, business establishments and community.

Suggested Learning Resources: Wind, solar energy, electric energy (DC or AC), gas, online materials, firewood, coal and any other locally available energy sources, career brochures and career magazines in braille and in print with appropriate colour contrast font type and size, digital devices with assistive technology (computer, laptop, smartphone and tablet), online resources.

Assessment Rubric				
Criteria	**Exceeds expectation**	**Meets expectation**	**Approaches expectation**	**Below expectation**
Identifying the sources of energy.	Outlines the sources of energy within the locality and explains their importance.	Identifies sources of energy.	States two sources of energy.	Recalls one source of energy.
Classifying the sources of energy as renewable or non-renewable.	Classifies the sources of energy as renewable or non-renewable and explains their advantages.	Classifies the sources of energy as renewable or non –renewable.	Lists three sources of energy as renewable or non –renewable.	Names one source of energy as renewable or non-renewable.
Discussing the advantages and disadvantages of different sources of energy.	Analyses the advantages and disadvantages of different sources of energy and support others.	Discusses the advantages and disadvantages of different sources of energy.	Identifies two advantages and two disadvantages of different sources of energy.	States one advantage or one disadvantages of one source of energy.
Identifying different types of energy related careers.	Discusses different types of energy related careers and informs peers where the careers are applicable.	Identifies different types of energy related careers.	States different energy related careers.	Names one energy related career.

Strand	**Sub-Strand**	**Specific Learning Outcomes**	**Suggested Learning Experiences**	**Key Inquiry Questions**
5.0 Energy Resources	**5.2 Uses of energy** (5 lessons).	By the end of the sub-strand, the learner should be able to; a. identify the different forms of energy in the locality, b) classify the different forms of energy into either kinetic c) or potential as forms of energy in the locality,	● Learners with low vision use digital devices to identify the different forms of energy. Learners with blindness use digital devices with assistive technology to identify the different forms of energy. ● Learners with low vision use a chart with appropriate colour contrast, font size and type to classify the different forms of energy as either kinetic or potential.	1. How does energy affect our daily lives? 2. Why is energy useful to our lives?

		d) recognize the different types of careers which require the use of energy within the locality, e) appreciate the role of energy in day to day life.	● Learners with blindness use braille cards to classify the different forms of energy as either kinetic or potential. ● In groups, learners discuss the uses of energy within the locality. ● Learners with low vision use digital devices to explore different uses of energy. Learners with blindness use digital devices with assistive technology to explore different uses of energy. ● Learners are guided to walk around the locality to observe and record the different energy uses. Learners with blindness are paired with their sighted peers and given verbal descriptions on observable items and activities during the tour.. ● Learners are guided to visit the locality to observe and record the various careers related to uses of energy within the locality.	
	Project activity 4 (13 lessons).	By the end of the sub-strand, the learner should be able to; a) identify the safety precautions to observe when working with tools to make the item designed in project activity 4, b) use appropriate tools to prepare the materials collected in project activity 4, c) use appropriate tools to make the item designed in project activity 4,	● Learners are guided to discuss the safety precautions to observe when working with tools to make the item designed in project activity 4. ● Learners are guided to select and use appropriate tools to prepare the materials collected in project activity 4. ● Learners are guided to select and use appropriate tools to make the item designed in project activity 4. ● Learners with low vision are guided to display the items on a contrasting surface for others to see and appreciate. ● Learners with blindness are guided to display the items made on a surface and tactually explore and appreciate.	1. Why do we observe safety precautions when working with tools? 2. How do we take precautions when working with tools?

		d) display the item made for others to see and appreciate.		

Core competencies to be developed:

- Communication and Collaboration as learners discuss in groups the uses of energy and as they take or give instructions.
- Critical Thinking and Problem Solving as learners come up with solutions to problems in the community using energy.
- Creativity and Imagination as learners think about the various ways of using energy within the locality.
- Digital Literacy as learners watch and listen to video clips and search for information online.
- Self-efficacy as learners express themselves during group discussions.
- Citizenship as learners think of how to solve problems in the community using energy.

Pertinent and Contemporary Issues (PCIs):

- Self-awareness is developed as learners discuss the use of energies within the locality.

Values:

- Responsibility is developed as learners take group leadership roles during group activities and as they appropriately use learning resources.
- Patriotism is achieved as learners take care of the environment by suggesting use of energy within the environments.
- Unity is developed as learners carry out learning activities together in harmony.
- Respect is developed as learners recognize each other's contribution during group activities.

Links to other Learning areas:

- Computer Science (ICT application) as learners search for information on the internet, watch and listen to video clips.
- Integrated Science as learners identify and discuss different forms of energies.
- Life Skills as learners discuss practical uses of energy within the locality.

Suggested Modes of Assessment: Question and answer, observation, project, peer and self-assessment, written assignments in braille and in print with appropriate colour contrast, font type and size.

Non-formal Activities to support Learning: Learners visit a nearby industry, business centres or manufacturing organisation to observe, listen and record how energy is used to generate products.

Suggested Learning Resources: Industry, workshop, salon or any other business organisation (whichever is available in the locality), career brochures and career magazines in print and braille, digital devices with assistive technology (computer, laptop, smartphone, tablets), online resources.

Assessment Rubric				
Criteria	**Exceeds expectation**	**Meets expectation**	**Approaches expectation**	**Below expectation**
Identifying the different forms of energy.	Describes different forms of energy and explain their benefits.	Identifies different forms of energy.	Names two forms of energy.	Names one form of energy.
Classifying the different forms of energy as either kinetic or potential.	Classifies and analyses different forms of energy as either kinetic or potential and gives examples.	Classifies different forms of energy as either kinetic or potential.	States two forms of energy as either kinetic or potential.	Names one form of energy as either kinetic or potential.
Identifying the uses of different forms of energy.	Identifies uses of different forms of energy and explain their benefits.	Identifies the uses of different forms of energy.	States the uses of two forms of energy.	Mention one use of a form of energy.

COMMUNITY SERVICE LEARNING CLASS ACTIVITY

Community Service Learning (CSL) is an experiential learning strategy that integrates classroom learning and community service to enable reflect, experience and learn from the community. The CSL project is expected to benefit the learner, the school and community. Knowledge and skills on how to carry out a CSL project have been covered in Life Skills Education (LSE).

All learners with visual impairment in Grade 7 will be expected to participate in a CSL class activity. The activity will give learners an opportunity to practise the CSL project skills covered under LSE. This activity will be undertaken in groups where learners with blindness will be grouped with those who have sight. Learners will be expected to apply the steps provided to carry out the CSL project.

The activity will take the form of a whole school approach, where the entire school community will be engaged in the learning process. Teachers will guide learners with visual impairment to execute a simple school based CSL class activity. This activity can be done in 4-6 weeks outside the classroom time. The duration may be adjusted accordingly to accommodate learners with blindness who may require more time to implement the CSL project.

CSL Skills to be covered:

i) **Research:** Learners will develop research skills as they investigate PCIs to address ways and tools to use in collecting data, analysing information and presenting their findings.

ii) **Communication:** Learners will develop effective communication skills as they engage with peers and school community members. These will include listening actively, asking questions and presentation skills using varied modes.

iii) **Citizenship:** Learners will be able to explore opportunities for engagement as members of the school community and provide a service for the common good.

iv) **Leadership:** Learners will develop leadership skills as they take up various roles within the CSL activity.

v) **Financial Literacy Skills:** Learners will consider how to source and utilise resources effectively and efficiently.

vi) **Entrepreneurship:** Learners will consider ways of generating income through innovation for the CSL class activity.

Suggested PCIs	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Questions
Learners will be guided to consider the various PCIs provided in the subjects in Grade 7 and choose one suitable to their context and reality.	By the end of the CSL class activity, the learner should be able to; a) identify a problem in the school community through research, b) develop a plan to solve the identified problem in the community, c) design solutions to the identified problem, d) implement solution to the identified problem, e) share the findings to relevant actors, f) reflect on own learning and relevance of the project, g) appreciate the need to belong to a community	● In groups, learners brainstorm on pertinent and contemporary issues in the community that need attention. ● In groups, learners discuss various PCIs within the school community and identify the one that requires immediate attention giving reasons for their choice. ● In groups, learners discuss possible solutions to the identified issue and propose the most appropriate solution to the problem. ● Learners brainstorm on the resources needed for the activity and source for them. ● Learners with blindness are guided in selecting materials that are safe and accessible to use (tactile charts, tactile graphs and braille). ● Learners with low vision use print reference materials with appropriate font size and contrasting colours as well as three-dimensional resources. ● In groups, learners discuss different methods and tools of collecting data and determine the ones suitable for the selected project. ● Learners prepare and use data collection methods and tools such as questionnaires, focus group discussions and interviews. ● In groups, learners develop appropriate tools for collecting data with the guidance of the teacher. ● In groups, learners collect data and record findings. Learners with blindness to work with sighted peers when collecting data. The sighted	1. How does one determine community needs? 2. Why is it necessary to be part of a community?

		peers should support in explaining or describing aspects that require use of sight. ● Learners with blindness use audio recorders to record the responses after seeking consent. ● In groups, learners discuss their findings, develop various reporting documents and use them to report on their findings. ● Based on the research report, learners implement a project to get solutions to the identified problem. Learners with blindness to work with sighted peers and ensure the project site is free from hazards such as hanging trees, sharp objects and potholes to ensure safe mobility. ● Learners use feedback from peers and the school community to improve on the implementation of the project. ● In groups, learners discuss the successes, challenges faced while implementing the project activities and lessons learnt; write a report and share through various media to peers and the school community. ● Learners reflect on how the project enhanced learning while at the same time facilitating service to the school by providing solutions to the identified issue(s).	

Assessment Rubric				
Criteria	**Exceeds Expectation**	**Meets Expectation**	**Approaches Expectation**	**Below Expectation**
Identifying a pertinent issue in the school community to be addressed.	Gives justification for the identified pertinent issue in the school community to be addressed.	Identifies a pertinent issue in the school community to be addressed.	States pertinent issues in the school community.	Recalls a pertinent issue in the school community.
Planning to solve the identified issue.	Designs and develops a step-by-step plan of the activities to be carried out in the process of solving the problem.	Develops a plan to solve the identified problem.	Gives an outline of a plan to solve the identified problem.	States activities to be included in the plan to solve the identified problem.
Designing and implementing solutions to the identified problem.	Designs, implements and solves the identified problem.	Designs and implements solutions to the identified problem.	Designs solutions to the identified problem.	Suggests a solution to the identified problem.
Sharing findings to relevant actors.	Shares findings and incorporates feedback from relevant actors to the findings.	Shares findings to relevant actors.	Gives a brief description of findings to relevant actors.	States some aspects of the findings to relevant actors.