



**REPUBLIC OF KENYA**

**MINISTRY OF EDUCATION**

**JUNIOR SECONDARY SCHOOL CURRICULUM DESIGN**

**GRADE 7**

**PRE-TECHNICAL & PRE-CAREER STUDIES**



**KENYA INSTITUTE OF CURRICULUM DEVELOPMENT**

**2021**



First Published in 2021

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ISBN: 978-9914-43-929-8

Published and printed by Kenya Institute of Curriculum Development



## **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), 21<sup>st</sup> century learning and approaches, the East Africa Protocol on harmonisation 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 the 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 educational 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 reorganization 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 21<sup>st</sup> Century competencies. Ultimately, this will lead to the realization 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 21<sup>st</sup> 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 cognisance 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 rubric 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 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

	<b>Subject</b>	<b>Number of Lessons Per Week (40 minutes per lesson)</b>
1.	English	5
2.	Kiswahili/KSL	4
3.	Mathematics	5
4.	Integrated Science	4
5.	Health Education	2
6.	Pre-Technical and Pre-Career	5
7.	Social Studies	3
8.	Religious Education (CRE/IRE/HRE)	2
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
	<b>Total</b>	<b>45</b>







## 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-fulfillment**

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. Practise 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 and Pre-Career studies is a subject that prepares the learner 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 and Pre-Career studies subject equips the learner with exploration, imagination, creativity, innovation and hands-on skills through projects and practical activities. Learners also acquire hands-on skills as they are exposed to programs in industries that the school collaborates with. 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 AND PRE-CAREER 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 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 Question
<b>1.0 Safety</b>	<b>1.1 Personal safety</b>  (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) demonstrate safety to self and others while performing tasks in the locality c) handle tools and equipment safely while performing tasks in the locality d) determine the general safety rules and regulations for a given task e) recognize various careers related to safety f) appreciate the role of safety in day to day life	Learners are guided to: <ul style="list-style-type: none"><li>• discuss the meaning of safety and relate potential hazards to personal safety in day to day life</li><li>• role-play on how to observe safety while performing simple tasks in the locality</li><li>• discuss the safety measures to observe when working with others while performing given tasks</li><li>• handle tools and equipment safely while performing simple tasks</li><li>• use digital devices to watch and discuss video clips on safety when handling tools and equipment</li><li>• brainstorm and develop general safety rules and regulations for a given task</li><li>• explore and identify various careers related to safety</li><li>• design and perform a task as they practice safety measures related to the task</li></ul>	<ol style="list-style-type: none"><li>1. Why is safety important?</li><li>2. How do you ensure safety when performing a task?</li></ol>



**Core Competencies to be developed:**

- Communication and Collaboration is achieved as learners discuss and carry out group activities.
- Citizenship as learners observe each other's safety when working in groups.
- Imagination and creativity as learners role play on safety when working with others.

**Pertinent and Contemporary Issues (PCIs):**

- Disaster risk reduction as learners perform tasks while observing safety
- Environmental protection as learners take care of waste materials in the process of practicing safety of self, others, tools and equipment.

**Values:**

- Social justice as learners observe safety of others while working together.
- Respect as learners recognize the input of every member during discussions.
- Unity as learners work together as a team.
- Responsibility as learners take care of tools and equipment.

**Links to other learning areas:**

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

**Assessment Rubric**

<b>Indicator</b>	<b>Exceeds expectation</b>	<b>Meets expectation</b>	<b>Approaches expectation</b>	<b>Below expectation</b>
Ability to identify potential hazards in relation to personal safety in day to day life	Correctly identifies potential hazards in relation to personal safety in day to day life	Identifies the potential hazards in relation to personal safety in day to day life	Identifies some potential hazards in relation to personal safety in day to day life	With guidance can identify potential hazards in relation to personal safety in day to day life
Ability to demonstrate safety	Demonstrates safety while performing all given tasks	Demonstrate safety while performing	Is not consistent in demonstrating safety while	Has difficulties in demonstrating safety





while performing given tasks		most of the given tasks	performing given tasks	while performing given tasks
Ability to observe safety while working with others in the locality	Always observes safety while working with others in the locality	Observes safety while working with others in the locality	Sometimes observes safety while working with others in the locality	Rarely observes safety while working with others in the locality
Ability to handle tools safely while performing tasks in the locality	Correctly handles tools safely while performing tasks in the locality	Most of the time handles tools safely while performing tasks in the locality	Sometimes handles tools safely while performing tasks in the locality	Requires support in handling tools safely while performing tasks in the locality
Ability to determine the general safety rules and regulations for a given task	Determines all the general safety rules and regulations for a given task	Determines most of the general safety rules and regulations for a given task	Can determine some general safety rules and regulations for a given task	Has difficulties in determining the general safety rules and regulations for a given task
Ability to recognize various careers related to safety.	Recognizes all various careers related to safety	Recognizes most various careers related to safety	With support, can recognize various careers related to safety	Hardly recognizes various careers related to safety







Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Question
<b>1.0 Safety</b>	<b>1.2 Injuries</b>  (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. d) apply safety measures to minimize 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 the day today activities.	Learners are guided to: <ul style="list-style-type: none"><li>• watch video clips on the types of injuries that occur in the locality</li><li>• discuss and identify the causes of injuries at home, school and locality (cuts, burns, scalds, and minor fractures)</li><li>• discuss ways of preventing cuts, burns, scalds and minor fractures</li><li>• visit health facilities to observe the careers related to the management of injuries</li><li>• role-play first aid procedures on management of cuts, burns, scalds, and minor fractures</li><li>• discuss ways in which they can reduce injuries while in school, at home or in the community</li></ul>	<ol style="list-style-type: none"><li>1. What causes injuries?</li><li>2. How can we minimise injuries at the work place?</li></ol>
<b>Core Competencies to be developed:</b> <ul style="list-style-type: none"><li>• Critical thinking and problem solving as learners discuss ways of preventing cuts, burns, scalds and minor fractures</li><li>• Self-efficacy as learners express themselves during role playing on first aid</li></ul> Digital literacy as learners use digital devices to search and watch video clips on safety practices while performing given tasks.				





<b>Pertinent and Contemporary Issues (PCIs):</b>				
<ul style="list-style-type: none"> <li>• Mental health as learners engage in safe practices to avoid injuries in the locality</li> </ul>				
<b>Values:</b>				
<ul style="list-style-type: none"> <li>• Unity as learners embrace teamwork in groups.</li> <li>• Respect as learners recognize the input of every member in the group.</li> <li>• Integrity as learners collect, use, care for, and safely store items and equipment.</li> </ul>				
<b>Links to other learning areas:</b>				
<ul style="list-style-type: none"> <li>• Integrated science as learners discuss how to perform first aid on cuts and bruises.</li> <li>• Computer science (ICT applications) as learners watch videos on the types of injuries and first aid.</li> <li>• Life skills as learners help one another when handling cases on cuts and bruises.</li> </ul>				
<b>Assessment Rubric</b>				
<b>Indicator</b>	<b>Exceeds expectation</b>	<b>Meets expectation</b>	<b>Approaches expectation</b>	<b>Below expectation</b>
Ability to identify types of injuries that may occur at the locality	Identifies all types of injuries that may occur at the locality	Identifies most types of injuries that may occur at the locality	Attempts to identify types of injuries that may occur at the locality	Requires support to identify types of injuries that may occur at the locality
Ability to identify causes of injuries that may occur at the locality	Identifies all causes of injuries that may occur at the locality	Identifies most causes of injuries that may occur at the locality	Attempts to identify causes of injuries that may occur at the locality	Requires support to identify causes of injuries that may occur at the locality
Ability to identify the types of injury and the corresponding first aid requirements.	Accurately relates all the types of injury and the corresponding first aid requirements	Relates most types of injury and the corresponding first aid requirements	Relates some types of injury and the corresponding first aid requirements	Requires guidance to relate the types of injury and the corresponding first aid requirements





Ability to apply safety measures to minimize injuries in the locality	Accurately applies safety measures to minimize injuries in the locality	Applies safety measures to minimize most injuries in the locality	Sometimes applies safety measures to minimize injuries in the locality	Requires support to apply safety measures to minimize injuries in the locality
Ability to recognize the careers related to first aid and management of injuries	Recognizes all the careers related to first aid and management of injuries	Recognizes most of the careers related to first aid and management of injuries	Recognizes some of the careers related to first aid and management of injuries	Has difficulties in recognizing the careers related to first aid and management of injuries





## STRAND 2.0: MATERIALS

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Questions
<b>2.0 Materials</b>	<b>2.1 Common materials</b>  (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) categorize 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 careers related to materials in the locality f) embrace the importance of different materials found in the locality	Learners are guided to: <ul style="list-style-type: none"><li>• walk around the locality to identify, collect and record common materials</li><li>• use a chart to list the common materials in the locality</li><li>• collect, sort and distinguish metallic and non-metallic materials.</li><li>• investigate and discuss the physical properties of materials: (color, texture, hardness, shape, fire resistance)</li><li>• watch videos for categorization and identification of physical properties of materials</li><li>• tour the locality to identify the various careers related to the use of common materials.</li></ul>	Why are materials important?
<b>Core competencies to be developed;</b> <ul style="list-style-type: none"><li>• Digital literacy when learners watch video clips to identify the uses of various metals.</li><li>• Communication and Collaboration as learners work in groups.</li><li>• Critical thinking and problem solving as learners distinguish metals and non-metallic materials.</li></ul>				





<b>Pertinent and Contemporary Issues (PCI's):</b>				
<ul style="list-style-type: none"> <li>• Self-awareness as learners interact with the environment</li> <li>• Disaster risk reduction as learners appreciate characteristics of materials and classify them into safe and unsafe materials</li> </ul>				
<b>Values:</b>				
<ul style="list-style-type: none"> <li>• Unity as learners work in groups</li> <li>• Responsibility as learners work with different materials</li> <li>• Respect as learners acknowledge each other's contributions during group discussions</li> </ul>				
<b>Links to other learning areas:</b>				
<ul style="list-style-type: none"> <li>• Integrated Science as learners investigate the physical properties of materials</li> </ul>				
<b>Assessment Rubric</b>				
<b>Indicator</b>	<b>Exceeds Expectation</b>	<b>Meets Expectation</b>	<b>Approaches Expectation</b>	<b>Below Expectation</b>
Ability to identify the common materials found in the locality	Identifies all the common materials found in the locality	Identifies most of the common materials found in the locality	Identifies some of the common materials found in the locality	Requires support to identify the common materials found in the locality
Ability to categorize the common materials in the locality	Categorizes all the common materials in the locality	Categorizes most of the common materials in the locality	Categorizes some of the common materials in the locality	Needs support to categorize the common materials in the locality
Ability to distinguish metallic and non-metallic materials	Distinguishes all metallic and non-metallic materials	Distinguishes most of the metallic and non-metallic materials	Distinguish some of the metallic and non-metallic materials	Has difficulties in distinguishing metallic and non-metallic materials





Ability to describe the physical properties of the common materials found in the locality.	Describes all the physical properties of the common materials found in the locality.	Describes most of the physical properties of the common materials found in the locality.	Describes some of the physical properties of the common materials found in the locality.	Requires support to describe the physical properties of the common materials found in the locality.
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<b>Strand</b>	<b>Sub-Strand</b>	<b>Specific Learning Outcomes</b>	<b>Suggested Learning Experiences</b>	<b>Key Inquiry Questions</b>
<b>2.0 Materials</b>	<b>2.2 Metals</b>  (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 e) appreciate the importance of metals in the locality	Learners are guided to: • develop a checklist for identifying different types of metals • sort metals (as either ferrous or non-ferrous, magnetic or non-magnetic, conductors of heat and electricity) • watch video clips on the various types of metals • discuss the various uses of metals in the locality • discuss careers related to metals under the guidance of a resource person(s).	1. What are metals? 2. Why are metals important?
<b>Core competencies to be developed:</b> <ul style="list-style-type: none"><li>• Digital literacy when learners watch video clips to identify the uses of various metals.</li><li>• Communication and Collaboration as learners work in groups.</li><li>• Critical thinking and problem solving as learners distinguish ferrous and non-ferrous metals.</li></ul>				
<b>Pertinent and Contemporary Issues (PCI's):</b> <ul style="list-style-type: none"><li>• Self-awareness as learners interact with the resource person(s)</li><li>• Disaster risk reduction as learners study the characteristics of metals and classify them into useful and non-useful metals</li></ul>				
<b>Values:</b> <ul style="list-style-type: none"><li>• Unity as learners work in groups</li><li>• Respect as learners acknowledge each other's contribution during group discussions</li></ul>				



**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 watch video clips on types of metals

**Assessment Rubric**

<b>Indicator</b>	<b>Exceeds Expectation</b>	<b>Meets Expectation</b>	<b>Approaches Expectation</b>	<b>Below Expectation</b>
Ability to identify different types of metals found in the locality	Identifies all different types of metals found in the locality	Identifies most of the different types of metals found in the locality	Identifies some of the different types of metals found in the locality	Has difficulties in identifying different types of metals found in the locality
Ability to identify physical properties of ferrous and non-ferrous metals commonly found in the locality	Describes all the physical properties of ferrous and non-ferrous metals commonly found in the locality	Describes most of the physical properties of ferrous and non-ferrous metals commonly found in the locality	Describes some of the physical properties of ferrous and non-ferrous metals commonly found in the locality	Requires support to describe the physical properties of ferrous and non-ferrous metals commonly found in the locality
Ability to identify the uses of metals found in the locality.	Identifies all the uses of metals found in the locality.	Identifies most of the uses of metals found in the locality.	Identifies some of the uses of metals found in the locality.	Has difficulties in identifying the uses of metals found in the locality.







Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Questions
<b>2.0 Materials</b>	<b>2.3 Non-metallic materials</b>  (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) categorize 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 e) recognize careers related to the processing and use of non-metallic materials	Learners are guided to: <ul style="list-style-type: none"><li>• research and develop a checklist for classifying non-metallic materials</li><li>• sort non-metallic materials (as either synthetic or natural)</li><li>• watch video clips on the various non-metallic materials</li><li>• discuss the various uses of non-metallic materials in the locality</li><li>• discuss careers related to non-metallic materials under the guidance of resource person(s).</li></ul>	<ol style="list-style-type: none"><li>1. What are non-metallic materials?</li><li>2. Why are non-metallic materials important?</li></ol>
	<b>Project activity1</b>  (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	Learners are guided to: <ul style="list-style-type: none"><li>• point out and discuss the existing problems in their community that require a solution using skills in the technical fields.</li><li>• use digital devices, life</li></ul>	What are the problems in your society that can be solved using skills in technical areas?





		the community c) identify skills needed to solve the problems in the community.	testimonies and moral stories to point out problems in their community that require solutions using skills in the technical skills. • suggest the technical skills that may be used to solve the identified problem.	
<b>Core competencies to be developed:</b> <ul style="list-style-type: none"><li>• Digital literacy as learners watch video clips to identify the properties of various non-metallic materials</li><li>• Communication and collaboration as learners work in groups</li><li>• Critical thinking and problem solving as learners distinguish different non-metallic materials</li></ul>				
<b>Pertinent and Contemporary Issues (PCI's):</b> <ul style="list-style-type: none"><li>• Self-awareness as learners interact with resource persons(s)</li><li>• Disaster risk reduction as learners study the characteristics of non-metallic materials and classify them into useful and non-useful materials</li></ul>				
<b>Values:</b> <ul style="list-style-type: none"><li>• Unity as learners work in groups</li><li>• Respect as learners acknowledge each other's contribution during group discussions</li></ul>				
<b>Links to other learning areas;</b> <ul style="list-style-type: none"><li>• Science and technology as learners group non-metallic materials as either natural and synthetic</li><li>• Computer science as learners use digital media to watch video clips on the physical properties of non-metallic materials</li></ul>				





<b>Assessment Rubric</b>				
<b>Indicator</b>	<b>Exceeds Expectation</b>	<b>Meets Expectation</b>	<b>Approaches Expectation</b>	<b>Below Expectation</b>
Ability to distinguish between synthetic and natural non-metallic materials	Accurately distinguishes between synthetic and natural non-metallic materials	Correctly distinguishes between synthetic and natural non-metallic materials	Attempts to distinguish between synthetic and natural non-metallic materials	Has difficulties in distinguishing between synthetic and natural non-metallic materials
Ability to categorize the non-metallic materials as either synthetic or natural non-metallic materials	Categorizes all the non-metallic materials as either synthetic or natural non-metallic materials	Categorizes most of the non-metallic materials as either synthetic or natural non-metallic materials	Categorize some of the non-metallic materials as either synthetic or natural non-metallic materials	Needs support to categorize the non-metallic materials as either synthetic or natural non-metallic materials
Ability to describe physical properties of non-metallic materials in the locality	Describes all the physical properties of non-metallic materials in the locality	Describes most of the physical properties of non-metallic materials in the locality	Describes some of the physical properties of non-metallic materials in the locality	Has difficulties in describing physical properties of non-metallic materials in the locality
Ability to identify the uses of non-metallic materials in the locality.	Identifies all the uses of non-metallic materials in the locality.	Identifies most of the uses of non-metallic materials in the locality.	Identifies some of the uses of non-metallic materials in the locality.	Needs support to identify the uses of non-metallic materials in the locality.





### STRAND 3.0: TOOLS

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Question
<b>3.0 Tools</b>	<b>3.1 Household hand tools</b>  (9 lessons)	By the end of the sub-strand, the learner should be able to: a) identify household hand tools in the locality b) categorize 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 role of household tools in the community.	Learners are guided to: <ul style="list-style-type: none"><li>• use realia and visual aids to identify household hand tools used in the locality</li><li>• watch video clips, and observe charts on household hand tools</li><li>• draw and categorize household tools according to use</li><li>• role-play safe use and storage of household hand tools</li><li>• discuss the proper care, maintenance and safe storage of household hand tools</li><li>• discuss careers related to household hand tools</li><li>• collaborate with the teachers, parents and guardians to perform simple tasks using household hand tools</li></ul>	<ol style="list-style-type: none"><li>1. What are household hand tools?</li><li>2. Why are household tools important?</li></ol>
<b>Core competencies to be developed:</b> <ul style="list-style-type: none"><li>• Communication and collaboration as learners discuss the use of household hand in the locality</li><li>• Critical thinking and problem solving as learners choose the tools to solve a problem in the community.</li><li>• Digital literacy as learners use digital devices to categorize tools.</li></ul>				





- Citizenship as learners display and discuss the items made to solve a problem in the community.

**Pertinent and Contemporary Issues (PCI's):**

- Environmental protection as learners use household tools to perform tasks correctly and also take care of and maintain them

**Values:**

- Responsibility as learners take care of tools in the locality
- Love as learners share items as they practice use of tools
- Respect as learners recognize the contribution of every member during group discussions.
- Integrity as learners care for hand tools in the locality

**Links to other learning areas:**

- Computer science -ICT applications as learners download and watch video clips on the uses of household hand tools
- Home science as learners clean and store household hand tools

**Assessment Rubric**

<b>Indicator</b>	<b>Exceeds expectation</b>	<b>Meets expectation</b>	<b>Approaches expectation</b>	<b>Below expectation</b>
Ability to identify household hand tools in the locality	Identifies all the household hand tools in the locality	Identifies most of the household hand tools in the locality	Identifies some of the household hand tools in the locality	Needs support to identify household hand tools in the locality
Ability to categorize household hand tools according to the uses	Categorizes all the household hand tools according to the uses	Categorizes most of the household hand tools according to the uses	Categorizes some of the household hand tools according to the uses	Has difficulties in categorizing household hand tools according to the uses
Ability to use household hand tools to perform given tasks	Uses household hand tools to perform all given tasks correctly	Uses household hand tools to perform most of the given	Uses household hand tools to perform some of the given tasks correctly	Requires support to use household hand tools to perform given tasks





correctly		tasks correctly		correctly
Ability to take care of and maintain household hand tools appropriately after use	Cares and maintains all the household hand tools after use	Cares of and maintains most of the household hand tools appropriately after use	Cares for and maintains some of the household hand tools appropriately after use	Has difficulties in caring for and maintaining the household hand tools after use





Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Question
<b>3.0 Tools</b>	<b>3.2 Farming hand tools</b>  (10 lessons)	By the end of the sub-strand, the learners should be able to: a) identify farming hand tools in the locality b) categorize 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 e) recognize the careers related to farming hand tools f) appreciate the importance of farming tools in the community	Learners are guided to: <ul style="list-style-type: none"><li>• use realia and visual aids to identify farming hand tools used in the locality</li><li>• download and watch video clips and observe charts on farming hand tools</li><li>• draw and categorize farming hand tools according to use</li><li>• practise safe use of farming hand tools</li><li>• discuss on the proper care, maintenance and safe storage of farming hand tools</li><li>• observe and relate farming hand tools to careers</li><li>• collaborate with teachers, parents and guardians to perform simple tasks using farming hand tools</li></ul>	Why are farming hand tools important?
	<b>Project activity 2</b> (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 project	Learners are guided to: <ul style="list-style-type: none"><li>• use visual aids to design items that may solve the problems identified in project activity 1.</li></ul>	What items are suitable for solving the problems in your





		activity 1 b) design the item that may solve the problem identified in project activity 1. c) Prepare an cost estimate for designed item		community?
<b>Core competencies to be developed</b> <ul style="list-style-type: none"> <li>• Communication and collaboration as learners discuss the use of farming tools in the locality</li> <li>• Critical thinking and problem solving as learners choose the farming tools to solve a problem in the community.</li> <li>• Digital literacy as learners use digital devices to categorize tools.</li> <li>• Citizenship as learners display and discuss the items made to solve a problem in the community.</li> <li>• Learning to learn as learners search and download video clips on farming hand tools</li> </ul>				
<b>Pertinent and Contemporary Issues (PCI's):</b> <ul style="list-style-type: none"> <li>• Environmental protection as learners use farming tools to perform good farming practices</li> </ul>				
<b>Values:</b> <ul style="list-style-type: none"> <li>• Responsibility as learners take care of tools in the locality</li> <li>• Love as learners share items as they practice use of tools</li> <li>• Respect as learners recognize the contribution of every member during group discussions.</li> </ul>				
<b>Links to other learning areas</b> <ul style="list-style-type: none"> <li>• Agriculture – as learners practice the care and maintenance of farming tools</li> <li>• Computer science -ICT applications as learners watch video clips on categorizing of farming hand tools</li> </ul>				

<b>Assessment Rubric</b>
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<b>Indicator</b>	<b>Exceeds expectation</b>	<b>Meets expectation</b>	<b>Approaches expectation</b>	<b>Below expectation</b>
Ability to identify farming hand tools in the locality	Identifies all the farming hand tools in the locality	Identifies most of the farming hand tools in the locality	Identifies some of the farming hand tools in the locality	Needs guidance to identify farming hand tools in the locality
Ability to categorize farming hand tools according to the uses	Categorizes all farming hand tools according to the uses	Categorizes most of the farming hand tools according to the uses	Categorizes some of the farming hand tools according to the uses	Needs support to categorize farming hand tools according to the uses
Ability to use farming hand tools safely to perform given tasks	Uses all farming hand tools safely to perform given tasks	Uses most of the farming hand tools safely to perform given tasks	Uses some of the farming hand tools safely to perform given tasks	Has difficulties in using farming hand tools safely to perform given tasks
Ability to take care and maintain farming hand tools appropriately after use	Cares for and maintains all farming hand tools very well after use	Cares for and maintains most of the farming hand tools appropriately after use	Cares for and maintains some of the farming hand tools appropriately after use	Needs support to care for and maintain farming hand tools with difficulties after use





## STRAND 4.0: DRAWING

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Questions
<b>4.0 Drawing</b>	<b>4.1 Types of drawings</b>  (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 are guided to: <ul style="list-style-type: none"> <li>research and identify different types of drawings used in the technical fields</li> <li>use digital images and charts, to distinguish between artistic or technical drawings</li> <li>use downloaded video clips, to discuss the use of artistic and technical drawings</li> <li>discuss careers related to use of drawings under the guidance of a resource person(s).</li> <li>identify objects at home, school or in the community where drawing has been used to make them.</li> </ul>	<ol style="list-style-type: none"> <li>How are drawings used in various careers?</li> <li>Why are drawings important in our day to day lives?</li> </ol>
<p><b>Core competencies to be developed:</b></p> <ul style="list-style-type: none"> <li>Communication and collaboration as learners discuss careers related to the use of drawings</li> <li>Citizenship as learners recognize the role of drawing in national economic development.</li> <li>Digital literacy as the learners use video clips to describe the artistic and technical drawing</li> <li>Critical thinking and problem solving as they relate the application of drawings to the built environment.</li> </ul>				
<p><b>Pertinent and Contemporary Issues (PCI's):</b></p> <ul style="list-style-type: none"> <li>Decision making as learners effectively use drawing instruments.</li> </ul>				





<ul style="list-style-type: none"> <li>• Mental health as learners work in groups</li> </ul>				
<b>Values:</b> <ul style="list-style-type: none"> <li>• Respect as learners recognize the contribution of every member in group discussions</li> </ul>				
<b>Links to other learning areas:</b> <ul style="list-style-type: none"> <li>• Visual arts – as learners identify various drawings</li> <li>• Computer science – as learners watch video clips to describe the use of artistic and technical drawing</li> </ul>				
<b>Assessment Rubric</b>				
<b>Indicator</b>	<b>Exceeds expectation</b>	<b>Meets expectation</b>	<b>Approaches expectation</b>	<b>Below expectation</b>
Ability to identify various types of drawings	Identifies all various types of drawings	Identifies most of the various types of drawings	Identifies most of the various types of drawings	Requires support to identify various types of drawings
Ability to distinguish between artistic and technical drawings	Accurately distinguishes between artistic and technical drawings	Correctly distinguishes between artistic and technical drawings	Attempts to distinguish between artistic and technical drawings	Has difficulties in distinguishing between artistic and technical drawings
Ability to describe the uses of artistic and technical drawing as used in various fields.	Describes all the uses of artistic and technical drawing as used in various fields	Describes most of the uses of artistic and technical drawing as used in various fields	Describes some of the uses of artistic and technical drawing as used in various fields	Has difficulties in describing the uses of artistic and technical drawing as used in various fields





Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Questions
<b>4.0 Drawing</b>	<b>4.2 Drawing instruments and equipment</b>  (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) demonstrate proper care and maintenance of drawing instruments and equipment e) appreciate the use of drawing instruments and equipment in various careers	Learners are guided to: <ul style="list-style-type: none"><li>• identify, draw and name the various drawing instruments and equipment</li><li>• use realia and video clips, to discuss the use of various drawing instruments and equipment</li><li>• use drawing instruments, to draw given lines and shapes.</li><li>• learn how to care for and maintain drawing instruments and equipment</li><li>• watch video clips on the use of drawing instruments and equipment in various careers</li></ul>	<ol style="list-style-type: none"><li>1. How are drawing instruments and equipment used?</li><li>2. Why is it important to care for and maintain drawing instruments and equipment?</li></ol>
<b>Core competencies to be developed:</b> <ul style="list-style-type: none"><li>• Communication and collaboration: as learners work in groups</li><li>• Learning to learn as learners use and maintain technical drawing instruments</li><li>• Digital literacy as the learners watch video clips</li></ul>				
<b>Pertinent and Contemporary Issues (PCI's):</b> <ul style="list-style-type: none"><li>• Decision making as learners effectively use drawings</li><li>• Mental health as learners work in groups and as individuals</li></ul>				





<p><b>Values:</b></p> <ul style="list-style-type: none"> <li>• Responsibility as learners take care of drawing instruments</li> <li>• Integrity as learners take care of the drawing instruments</li> <li>• Respect as learners recognize the contribution of every member in group discussions</li> <li>• Patriotism as learners recognize the use of lines and shapes as used in the national flag and traffic signs</li> </ul>				
<p><b>Links to other learning areas:</b></p> <ul style="list-style-type: none"> <li>• Visual arts as learners draw shapes</li> <li>• Agriculture as learners draw farm tools and equipment</li> <li>• Mathematics as learners perform geometrical constructions</li> <li>• Computer science as learners watch video clips to discuss construction of shapes</li> </ul>				
<p><b>Assessment Rubric</b></p>				
<b>Indicator</b>	<b>Exceeds expectation</b>	<b>Meets expectation</b>	<b>Approaches expectation</b>	<b>Below expectation</b>
Ability to identify instruments and equipment	Identifies all drawing instruments and equipment	Identifies most of the drawing instruments and equipment	Identifies some of the instruments and equipment	Needs support to identify drawing instruments and equipment
Ability to describe the uses of drawing instruments and equipment	Describes all the uses of drawing instruments and equipment	Describes most of the uses of drawing instruments and equipment	Describes some of the uses of drawing instruments and equipment	Has difficulties in describing the use of drawing instruments and equipment
Ability to draw lines and shapes using drawing instruments and equipment	Draws all lines and shapes using drawing instruments and equipment	Draws most of the lines and shapes using drawing instruments and equipment	Draws some of the lines and shapes using drawing instruments and equipment	Needs support to draw lines and shapes using drawing instruments and equipment





Ability to care for and maintain drawing instruments and equipment	Cares for and maintains all drawing instruments and equipment	Cares for and maintains most of the drawing instruments and equipment	Cares for and maintains some of the drawing instruments and equipment	Has difficulties in caring for and maintaining drawing instruments and equipment
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Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Questions
<b>4.0 Drawing</b>	<b>4.3 Free hand sketching</b>  (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) sketch still life objects in perspective drawing d) recognize the use of free hand sketches in expression of artistic ideas in different career fields. e) appreciate the importance of free hand sketching in day to day life	Learners are guided to: <ul style="list-style-type: none"><li>• use pencils and drawing papers to sketch lines</li><li>• use pencils and drawing papers to sketch two-dimensional shapes</li><li>• use realia, to sketch still life objects</li><li>• use digital media, to observe how free hand sketches express artistic ideas in different career fields</li><li>• take photos of the sketches and drawings for the development of portfolios</li></ul>	Why is free hand sketching important?
<b>Core competencies to be developed:</b> <ul style="list-style-type: none"><li>• Communication and collaboration as learners discuss in groups</li><li>• Learning to learn as learners use free hand sketches to communicate</li><li>• Digital literacy as the learners take photographs using digital devices</li><li>• Critical thinking and problem solving as learners discuss and make free hand sketches</li></ul>				
<b>Pertinent and Contemporary Issues (PCI's):</b> <ul style="list-style-type: none"><li>• Decision making as learners effectively use drawing instruments</li><li>• Mental health as learners work in groups and as individuals</li></ul>				





<b>Values:</b> <ul style="list-style-type: none"><li>• Responsibility as learners take care of drawing instruments</li><li>• Respect as learners recognize the contribution of every member in group discussions</li><li>• Patriotism as learners recognize the use of lines and shapes as used in the national flag and traffic signs</li></ul>				
<b>Links to other learning areas:</b> <ul style="list-style-type: none"><li>• Visual arts as learners draw objects using free hand sketches</li></ul>				
<b>Assessment Rubric</b>				
<b>Indicator</b>	<b>Exceeds expectation</b>	<b>Meets expectation</b>	<b>Approaches expectation</b>	<b>Below expectation</b>
Ability to sketch lines using free hand	Sketches all the lines using free hand	Sketch most of the lines using free hand	Sketch some of the lines using free hand	Needs support to sketch lines using free hand
Ability to sketch two dimensional shapes using free hand	Sketches all two-dimensional shapes using free hand	Sketches most of the two-dimensional shapes using free hand	Sketches some of the two-dimensional shapes using free hand	Has difficulties in sketching two dimensional shapes using free hand
Ability to sketch still life objects in perspective drawing	Sketches all still life objects in perspective drawing	Sketches most of the still life objects in perspective drawing	Sketches some of the still life objects in perspective drawing	Requires support to sketch still life objects in perspective drawing







Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Questions
<b>4.0 Drawing</b>	<b>4.4 Geometrical construction</b>  (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) identify different career fields where the knowledge of geometrical construction could be applied in the locality f) appreciate the importance of geometrical construction in everyday life.	Learners are guided to: <ul style="list-style-type: none"><li>• use video clips and visual aids to discuss how to construct different geometrical shapes</li><li>• practice construction of different angles and triangles in plane geometry</li><li>• practice construction of quadrilaterals in plane geometry</li><li>• practice construction of circles in plane geometry</li><li>• practice construction of combined shapes</li><li>• apply geometry in different career fields</li><li>• construct objects found at school, at home and in the community using geometric construction</li></ul>	<ol style="list-style-type: none"><li>1. How are geometric construction drawings done?</li><li>2. Where can geometrical construction be applied?</li></ol>





	<b>Project activity 3</b>  (13 Lessons)	By the end of the sub-strand, the learner should be able to: a) suggest the materials for making the item designed in project activity 2 b) gather the materials for making the item designed in project activity 2 c) store the prepared materials for making the item designed in project activity 2	Learners are guided to: <ul style="list-style-type: none"><li>• use visual aids to observe and pick out the materials used to make the item designed in project activity 2.</li><li>• find and collect the materials chosen.</li><li>• keep the collected materials safely</li></ul>	Which materials are suitable for making items to solve the problems in your community?
<b>Core competencies to be developed:</b> <ul style="list-style-type: none"><li>• Communication and collaboration: as learners discuss in groups</li><li>• Digital literacy as learners use video clips</li><li>• Critical thinking and problem solving as learners relate the application of plane geometry to different careers</li></ul>				
<b>Pertinent and Contemporary Issues (PCI's):</b> <ul style="list-style-type: none"><li>• Decision making as learners effectively use drawing instruments</li><li>• Mental health as learners work as groups and as individuals</li></ul>				
<b>Values:</b> <ul style="list-style-type: none"><li>• Responsibility as learners take care of drawing instruments</li><li>• Respect as learners recognize the contribution of every member in group discussions</li><li>• Patriotism as learners recognize the use of lines and shapes as used in the national flag and traffic signs</li></ul>				
<b>Links to other learning areas:</b> <ul style="list-style-type: none"><li>• Visual Arts as learners draw plane figures</li><li>• Agriculture as learners draw farm tools and equipment</li><li>• Mathematics as learners perform geometrical construction</li></ul>				





<b>Assessment Rubric</b>				
<b>Indicator</b>	<b>Exceeds expectation</b>	<b>Meets expectation</b>	<b>Approaches expectation</b>	<b>Below expectation</b>
Ability to construct angles in plane geometry	Constructs all angles in plane geometry	Constructs most of the angles in plane geometry	Constructs some of the angles in plane geometry	Requires support to construct angles in plane geometry
Ability to construct triangles and quadrilaterals in plane geometry	Constructs all triangles and quadrilaterals in plane geometry	Constructs most of the triangles and quadrilaterals in plane geometry	Constructs some of the triangles and quadrilaterals in plane geometry	Needs support to construct triangles and quadrilaterals in plane geometry
Ability to construct circles in plane geometry	Constructs circles in plane geometry accurately	Constructs circles in plane geometry	Attempts to construct circles in plane geometry	Needs guidance to construct circles in plane geometry
Ability to construct combined shapes in plane geometry	Constructs all combined shapes in plane geometry	Constructs most combined shapes in plane geometry	Construct some combined shapes in plane geometry	Requires support to construct combined shapes in plane geometry
Ability to identify different career fields where the knowledge of geometrical construction could be applied	Identifies all different career fields where the knowledge of geometrical construction could be applied	Identifies most of the different career fields where the knowledge of geometrical construction could be applied	Identifies some of the different career fields where the knowledge of geometrical construction could be applied	Has difficulties identifying different career fields where the knowledge of geometrical construction could be applied





## STRAND 5.0: ENERGY RESOURCES

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Questions
<b>5.0 Energy Resources</b>	<b>5.1 Sources of energy</b>  (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	Learners are guided to: <ul style="list-style-type: none"><li>• discuss the concept of energy</li><li>• identify the different sources of energy within the locality</li><li>• use digital media, to explore other sources of energy</li><li>• use flash cards to group various sources of energies as renewable and non-renewable</li><li>• discuss the advantages and disadvantages of the different sources of energy</li><li>• use digital devices to research on the skills required for particular energy related careers</li><li>• tour the locality to observe and record the various careers related to energy</li><li>• discuss how important energy is to our everyday life</li></ul>	<ol style="list-style-type: none"><li>1. What is energy?</li><li>2. Where does energy come from?</li><li>3. Why is energy important to our daily lives?</li></ol>



**Core competencies to be developed:**

- Communication and collaboration as learners identify the sources of energy in the locality
- Critical thinking and problem solving as learners discuss about the concept of energy
- Creativity and imagination as learners think about the advantages and disadvantages of different sources of energy
- Digital literacy as learners discuss on the skills required for particular energy related careers
- Self-efficacy as learners express themselves during group discussions
- Learning to learn as they research on energy

**Pertinent and Contemporary Issues (PCIs):**

- Environmental awareness as learners identify the different sources of energy in the locality
- Disaster risk reduction as learners identify the safe sources of energy for their own safety, safety of others and safety of the environment

**Values:**

- Responsibility as learners listen to each other and as they discuss sources of energy in the locality
- Patriotism as learners take care of the environment by appreciating the sources of energy within the environment.
- Unity as learners carry out learning activities together.
- Respect as learners recognize each other's contribution during group activities.

**Links to other learning areas:**

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





<b>Assessment Rubric</b>				
<b>Indicator</b>	<b>Exceeds expectation</b>	<b>Meets expectation</b>	<b>Approaches expectation</b>	<b>Below expectation</b>
Ability to identify the sources of energy within the locality	Identifies all the sources of energy within the locality	Identifies most of the sources of energy within the locality	Identifies some of the sources of energy within the locality	Needs support to identify the sources of energy within the locality
Ability to classify the sources of energy as renewable or non-renewable	Classifies all the sources of energy as renewable or non-renewable	Classifies most of the sources of energy as renewable or non-renewable	Classifies some of the sources of energy as renewable or non-renewable	Requires guidance to classify the sources of energy as renewable or non-renewable
Ability to discuss the advantages and disadvantages of different sources of energy	Discusses all the advantages and disadvantages of different sources of energy	Discusses most of the advantages and disadvantages of different sources of energy	Discusses some of the advantages and disadvantages of different sources of energy	Needs support to discuss the advantages and disadvantages of different sources of energy
Ability to identify different energy related careers	Identifies all different energy related careers	Identifies most of the different energy related careers	Identifies some of the different energy related careers	Requires support to identify different energy related careers





<b>Strand</b>	<b>Sub-Strand</b>	<b>Specific Learning Outcomes</b>	<b>Suggested Learning Experiences</b>	<b>Key Inquiry Questions</b>
<b>5.0 Energy Resources</b>	<b>5.2 Uses of energy</b>  (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 or potential energy c) identify the uses of different forms of energy in the locality d) recognize the different types of careers which require the use of energy within the locality e) appreciate the role of energy in the day to day life	Learners are guided to: <ul style="list-style-type: none"><li>• use digital media to identify the different forms of energy</li><li>• use a chart to classify the different forms of energy as either kinetic or potential</li><li>• discuss the uses of energy within the locality</li><li>• use digital devices to explore different uses of energy.</li><li>• walk around the locality to observe and record the different energy uses.</li><li>• visit the locality to observe and record the various careers related to uses of energy within the locality.</li></ul>	<ol style="list-style-type: none"><li>1. How does energy affect our daily lives?</li><li>2. What ways can energy be useful to our lives?</li></ol>





	<b>Project activity 4</b>  (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 2. b) use appropriate tools to prepare the materials collected in project activity 3. c) use appropriate tools to make the item designed in project activity 2. d) display the item made for others to see and appreciate.	Learners are guided to: <ul style="list-style-type: none"><li>• discuss the safety precautions to observe when working with tools to make the item designed in project activity 2</li><li>• select and use appropriate tools to prepare the materials collected in project activity 3.</li><li>• select and use appropriate tools to make the item designed in project activity 2.</li><li>• display the item made for others to see and appreciate.</li></ul>	
<b>Core competencies to be developed:</b> <ul style="list-style-type: none"><li>• Communication and collaboration as learners discuss in groups</li><li>• Critical thinking and problem solving as learners think of how to solve problems in the community using energy.</li><li>• Creativity and imagination as learners think about the various uses on energy within the localities.</li><li>• Digital literacy as learners watch video clips and search for information online</li><li>• Self-efficacy as learners express themselves during group discussions</li><li>• Citizenship as learners think of how to solve problems in the community.</li></ul>				
<b>Pertinent and Contemporary Issues (PCIs):</b> <ul style="list-style-type: none"><li>• Self-awareness as learners discuss the use of energies within the locality</li></ul>				





**Values:**

- Responsibility as learners listen to each other as they discuss the catalogues on the types of energies.
- Patriotism as learners take care of the environment by suggesting use of energy within the environments.
- Unity as learners carry out learning activities together.
- Respect as learners recognize each other's contribution during group activities.

**Links to other Learning areas:**

- Computer science ICT application as learners search for information in the internet and watch video clips.
- Integrated science as learners discuss the different forms of energies.
- Life skills as learners discuss practical uses of energy within the localities

**Assessment Rubric**

<b>Indicator</b>	<b>Exceeds expectation</b>	<b>Meets expectation</b>	<b>Approaches expectation</b>	<b>Below expectation</b>
Ability to identify the different forms of energy in the environment	Identifies all the different forms of energy in the environment	Identifies most of the different forms of energy in the environment	Identifies some of the different forms of energy in the environment	Needs guidance to identify the different forms of energy in the environment
Ability to classify the different forms of energy as either kinetic or potential	Classifies all the different forms of energy as either kinetic or potential	Classifies most of the different forms of energy as either kinetic or potential	Classifies some of the different forms of energy as either kinetic or potential	Has difficulties in classifying the different forms of energy as either kinetic or potential
Ability to identify the uses of different forms of energy in the locality	Identifies all the uses of different forms of energy in the locality	Identifies most of the uses of different forms of energy in the locality	Identifies some of the uses of different forms of energy in the locality	Requires support to identify the uses of different forms of energy in the locality





## **GUIDELINES ON COMMUNITY SERVICE LEARNING CLASS ACTIVITY**

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

All learners in Grade 7 will be expected to participate in only one 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 for purposes of learning. Learners will be expected to apply knowledge and skills on steps of the CSL project to carry out an activity of their choice as per the guidelines provided in the template. The learning approach 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 to execute a simple school based integrated CSL class activity. This activity can be done in 1-2 weeks outside the classroom time.

### **CSL Skills to be covered:**

**Research :** Learners will develop research skills as they investigate PCIs to address the activity, ways and tools to use in collecting the data, manner in which they will analyse information and present their findings.

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

**Citizenship:** Learner will be able to explore opportunities for engagement as members of the school community and providing a service for the common good.

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

**Financial Literacy Skills:** Learners consider how they can undertake the project as well as sourcing and utilising resources effectively and efficiently.

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





<b>Suggested PCIs</b>	<b>Specific Learning Outcomes</b>	<b>Suggested Learning Experiences</b>	<b>Key Inquiry Questions</b>
<p>The learners will be guided to consider the various PCIs provided in the various subjects in Grade 7 and choose one suitable to their context and reality</p>	<p>By the end of the CSL class activity, the learner should be able to:</p> <ol style="list-style-type: none"><li>a) identify a problem in the school community through research,</li><li>b) plan to solve the identified problem in the community,</li><li>c) design solutions to the identified problem,</li><li>d) implement solution to the identified problem,</li><li>e) share the findings with relevant actors,</li><li>f) reflect on own learning and relevance of the project,</li><li>g) appreciate the need to belong to a community</li></ol>	<p>The learner is guided to:</p> <ul style="list-style-type: none"><li>● brainstorm on issues/pertinent and contemporary issues in their school that need attention</li><li>● choose a PCI that needs immediate attention and explain why</li><li>● discuss possible solutions to the identified issue</li><li>● propose the most appropriate solution to the problem</li><li>● discuss ways and tools they can use to collect information on a problem (questionnaires, interviews, observation)</li><li>● develop tools for collecting the information/data</li><li>● identify resources they need for the activity</li><li>● collect the information/data using various means</li><li>● develop various reporting documents on their findings</li><li>● use the developed tools to report on their findings</li></ul>	<ol style="list-style-type: none"><li>1. How does one determine community needs?</li><li>2. Why is it necessary to be part of a community?</li><li>3. What can one do to demonstrate a sense of belonging</li></ol>





		<ul style="list-style-type: none"> <li>● implement project</li> <li>● collect feedback from peers and school community regarding the CSL activity</li> <li>● share the report on activity through various media to peers and school community</li> <li>● discuss the strengths and weaknesses of implemented project and lessons learnt</li> <li>● reflect on how the project enhanced own learning while at the same time facilitated service on an issue in the school community</li> </ul>	
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**Assessment Rubric**

<b>Indicator</b>	<b>Exceeds Expectation</b>	<b>Meets Expectation</b>	<b>Approaches Expectation</b>	<b>Below Expectation</b>
The ability to identify and analyse a pertinent issue in society to be addressed	Learner critically defines and elaborately discusses a pertinent issue to be addressed.	Learner defines and discusses a pertinent issue to be addressed.	Learner defines and discusses a pertinent issue to be addressed with minimal support.	Learner requires support to critically examine and select the appropriate issue.
The ability to plan to solve the identified problem	Learner correctly and systematically establishes resources needed, develops plans, assigns	Learner correctly establishes resources needed, develops plans, assigns responsibilities,	Learner sometimes establishes resources needed, develops plans, assigns responsibilities,	Learner has difficulty establishing resources needed, developing plans, assigning





	responsibilities, and generates data on the CSL project.	and generates data on the CSL project.	and generates data on the CSL project.	responsibilities and generating data on the CSL project.
The ability to design solutions to the identified problem and implement them	Learner constantly applies the knowledge and skills gained in subjects to address the identified issue.	Learner applies the knowledge and skills gained in subjects to address the identified issue.	Learner applies the knowledge and skills gained in subjects to address the identified issue with some support.	Learner requires a lot of probing to apply the knowledge and skills gained in subjects to address the identified issue.
Ability to share findings to relevant actors	Learner comprehensively and confidently shares findings of the issue addressed in the activity.	Learner confidently shares findings of the issue addressed in the activity.	Learner shares some of the findings of the issue addressed in the activity.	Learner briefly shares findings of the issue addressed in the activity, lacks necessary details.
The ability to reflect on own learning and relevance of the activity	Learner distinctively and clearly outlines the benefits of the CSL activity on the target community and own learning.	Learner clearly outlines the benefits of the CSL activity on the target community and own learning.	Learner outlines the benefits of the CSL activity on the target community and own learning, a few unclear.	Learner struggles to outline the benefits of the CSL activity on the target community and own learning.





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

NO	STRAND	SUB STRAND	SUGGESTED RESOURCES	SUGGESTED ASSESSMENT METHODS	SUGGESTED NON-FORMAL ACTIVITIES
1.	<b>SAFETY</b>	Personal Safety	<ul style="list-style-type: none"><li>• Workshop</li><li>• Hand tools such as; chisels, hammers, screw drivers, jack planes, mallets, chisels, knives, needles, among others</li><li>• Workshop attires such as; overcoats, aprons, shoes, goggles among others</li><li>• Career brochures, career magazines</li><li>• Digital devices such as; computer, laptop, smart phone, tablets among others</li><li>• Workshop rules and regulations</li></ul>	<ul style="list-style-type: none"><li>• Question and Answer</li><li>• Observation</li><li>• Checklist</li><li>• Written test</li><li>• Rubrics</li><li>• Project</li><li>• Practical work</li></ul>	<ul style="list-style-type: none"><li>• Learners visit a nearby workshop in the locality to observe how workers practice safety as they perform tasks</li><li>• Learners generate a catalogue on the workshop rules and regulations on personal safety and safety of others</li></ul>





		Injuries	<ul style="list-style-type: none"> <li>• First aid kit</li> <li>• Career brochures, career magazines</li> <li>• Digital devices such as; computer, laptop, smart phone, tablets among others</li> <li>• Workshop rules and regulations</li> </ul>	<ul style="list-style-type: none"> <li>• Question and Answer</li> <li>• Observation</li> <li>• Checklist</li> <li>• Written test</li> <li>• Rubrics</li> <li>• Project</li> <li>• Practical work</li> </ul>	<ul style="list-style-type: none"> <li>• Learners role play on how to administer first aid to other learners in the school</li> <li>• Learners organize public debates on career choices</li> </ul>
2.	<b>MATERIALS</b>	Common Materials	<ul style="list-style-type: none"> <li>• Stones, clay, sand, timber, sisal, ballast, grass, water, trees, minerals among others</li> <li>• Career brochures, career magazines</li> <li>• Digital devices such as; computer, laptop, smart phone, tablets among others</li> </ul>	<ul style="list-style-type: none"> <li>• Question and Answer</li> <li>• Observation</li> <li>• Checklist</li> <li>• Written test</li> <li>• Rubrics</li> <li>• Project</li> <li>• Practical work</li> </ul>	<ul style="list-style-type: none"> <li>• Learners go round the compound and the nearby community and collect available materials and write down how each is used by the local community</li> </ul>
		Metals	<ul style="list-style-type: none"> <li>• Metals</li> <li>• Non-metals</li> <li>• Career brochures, career magazines</li> <li>• Digital devices such as;</li> </ul>	<ul style="list-style-type: none"> <li>• Question and Answer</li> <li>• Observation</li> <li>• Checklist</li> <li>• Written test</li> <li>• Rubrics</li> <li>• Project</li> </ul>	<ul style="list-style-type: none"> <li>• Learners visit a nearby workshop to observe and record how metals are used to make different gadgets</li> </ul>





			computer, laptop, smart phone, tablets among others	<ul style="list-style-type: none"> <li>• Practical work</li> </ul>	
		Non-metallic materials	<ul style="list-style-type: none"> <li>• Non-metals</li> <li>• Synthetic materials</li> <li>• Career brochures, career magazines</li> <li>• Digital devices such as; computer, laptop, smart phone, tablets among others</li> </ul>	<ul style="list-style-type: none"> <li>• Question and Answer</li> <li>• Observation</li> <li>• Checklist</li> <li>• Written test</li> <li>• Rubrics</li> <li>• Project</li> <li>• Practical work</li> </ul>	<ul style="list-style-type: none"> <li>• Learners visit a nearby workshop to observe and record how non-metals and synthetic materials are used to make different gadgets</li> </ul>
3.	<b>TOOLS</b>	Household hand tools	<ul style="list-style-type: none"> <li>• scissors, razor blades, broom, brush, needle, screw drivers, mop, nail cutters, knives, pliers, axe among others</li> <li>• Career brochures, career magazines</li> <li>• Digital devices such as; computer, laptop, smart phone, tablets among others</li> </ul>	<ul style="list-style-type: none"> <li>• Question and Answer</li> <li>• Observation</li> <li>• Checklist</li> <li>• Written test</li> <li>• Rubrics</li> <li>• Project</li> <li>• Practical work</li> </ul>	<ul style="list-style-type: none"> <li>• Learners visit a nearby homes to observe and record how household hand tools are used in the family and local community</li> </ul>
		Farming hand tools	<ul style="list-style-type: none"> <li>• Jembes, plough, rakes, spades, pangas, screw drivers, grass cutters,</li> </ul>	<ul style="list-style-type: none"> <li>• Question and Answer</li> <li>• Observation</li> </ul>	<ul style="list-style-type: none"> <li>• Learners visit a nearby homes to observe and record</li> </ul>







			<ul style="list-style-type: none"> <li>pliers among others</li> <li>Career brochures, career magazines</li> <li>Digital devices such as; computer, laptop, smart phone, tablets among others</li> </ul>	<ul style="list-style-type: none"> <li>Checklist</li> <li>Written test</li> <li>Rubrics</li> <li>Project</li> <li>Practical work</li> </ul>	how farming hand tools are used in the family and local community
4.	<b>DRAWING</b>	Types of Drawing	<ul style="list-style-type: none"> <li>Drawing charts</li> <li>Drawing papers/books</li> <li>Career brochures, career magazines</li> <li>Digital devices such as; computer, laptop, smart phone, tablets among others</li> </ul>	<ul style="list-style-type: none"> <li>Question and Answer</li> <li>Observation</li> <li>Checklist</li> <li>Written test</li> <li>Rubrics</li> <li>Project</li> <li>Practical work</li> </ul>	<ul style="list-style-type: none"> <li>Learners visit a nearby workshop to observe and record how different types of drawings are done and how they are used in the family and local community</li> </ul>
		Drawing Instruments and Equipment	<ul style="list-style-type: none"> <li>Drawing tables</li> <li>Drawing papers/books</li> <li>Pencils</li> <li>T-squares</li> <li>Drawing instruments</li> <li>Ruler/Straight edge</li> <li>Set squares</li> <li>Career brochures, career magazines</li> </ul>	<ul style="list-style-type: none"> <li>Question and Answer</li> <li>Observation</li> <li>Checklist</li> <li>Written test</li> <li>Rubrics</li> <li>Project</li> <li>Practical work</li> </ul>	<ul style="list-style-type: none"> <li>Learners visit a nearby workshop of a TVET institution to observe and record how drawing instruments and equipment are done and how they are used in the family and local</li> </ul>





			<ul style="list-style-type: none"><li>• Digital devices such as; computer, laptop, smart phone, tablets among others</li></ul>		community
	Free Hand Sketching		<ul style="list-style-type: none"><li>• Drawing tables</li><li>• Drawing papers/books</li><li>• Pencils</li><li>• Career brochures, career magazines</li><li>• Digital devices such as; computer, laptop, smart phone, tablets among others</li><li>• Samples of free hand sketches</li><li>• Two dimensional shapes</li></ul>	<ul style="list-style-type: none"><li>• Question and Answer</li><li>• Observation</li><li>• Checklist</li><li>• Written test</li><li>• Rubrics</li><li>• Project</li><li>• Practical work</li></ul>	<ul style="list-style-type: none"><li>• Learners visit a nearby fine art or cultural center to observe and record how free hand sketches are done and how they are used in the family and local community</li></ul>
	Geometrical Construction		<ul style="list-style-type: none"><li>• Drawing tables</li><li>• Drawing papers/books</li><li>• Pencils</li><li>• T-squares</li><li>• Drawing instruments</li><li>• Ruler/Straight edge</li><li>• Set squares</li><li>• Career brochures, career</li></ul>	<ul style="list-style-type: none"><li>• Question and Answer</li><li>• Observation</li><li>• Checklist</li><li>• Written test</li><li>• Rubrics</li><li>• Project</li><li>• Practical work</li></ul>	<ul style="list-style-type: none"><li>• Learners visit a nearby workshop or a TVET institution to observe and record how geometrical construction is done and how it is used in the family and local</li></ul>





			<p>magazines</p> <ul style="list-style-type: none"> <li>• Digital devices such as; computer, laptop, smart phone, tablets among others</li> </ul>		community
5.	<b>ENERGY RESOURCES</b>	Sources of Energy	<ul style="list-style-type: none"> <li>• Wind, Solar energy, Electric energy (DC/AC), Gas, Firewood, Coal among others (whichever is available in the locality)</li> <li>• Career brochures, career magazines</li> <li>• Digital devices such as; computer, laptop, smart phone, tablets among others</li> </ul>	<ul style="list-style-type: none"> <li>• Question and Answer</li> <li>• Observation</li> <li>• Checklist</li> <li>• Written test</li> <li>• Rubrics</li> <li>• Project</li> <li>• Practical work</li> </ul>	<ul style="list-style-type: none"> <li>• Learners visit a nearby source of energy to observe and record how energy is generated and it is used in the family, business establishments and local community</li> </ul>
		Uses of Energy	<ul style="list-style-type: none"> <li>• Industry, workshop, salon or any other business organization among others (whichever is available in the locality)</li> <li>• Career brochures, career magazines</li> <li>• Digital devices such as; computer, laptop, smart</li> </ul>	<ul style="list-style-type: none"> <li>• Question and Answer</li> <li>• Observation</li> <li>• Checklist</li> <li>• Written test</li> <li>• Rubrics</li> <li>• Project</li> <li>• Practical work</li> </ul>	<ul style="list-style-type: none"> <li>• Learners visit a nearby industry, business centers or any other manufacturing organization to observe and record how energy is used to generate products</li> </ul>





			phone, tablets among others		for use by the family, business establishments and local community
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