REPUBLIC OF KENYA
MINISTRY OF EDUCATION

JUNIOR SCHOOL CURRICULUM DESIGN FOR LEARNERS WITH VISUAL IMPAIRMENT

BRAILLE SKILLS

GRADE 8

KENYA INSTITUTE OF CURRICULUM DEVELOPMENT

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FOREWORD

The Government of Kenya is committed to ensuring that policy objectives for Education, Training and Research meet the aspirations of the Kenya Constitution 2010, the Kenya Vision 2030, National Curriculum Policy 2019, the United Nations Sustainable Development Goals (SDGs) and the Regional and Global conventions to which Kenya is a signatory. Towards achieving the mission of Basic Education, the Ministry of Education (MoE) has successfully and progressively rolled out the implementation of the Competency Based Curriculum (CBC) at Pre-Primary and Primary School levels. The roll out of Junior School (Grade 7-9) will subsequently follow as from 2023-2025.

The Grade 8 curriculum designs build on competencies attained by learners at the end of Grade 7. Further, they provide opportunities for learners to continue exploring and nurturing their potentials as they prepare to transit to Senior School.

The curriculum designs present National Goals of Education, essence statements, general and specific expected learning outcomes for the learning areas (subjects) as well as strands and sub strands. The designs also outline suggested learning experiences, key inquiry questions, core competencies, Pertinent and Contemporary Issues (PCIs), values, Community Service Learning (CSL) activities and assessment rubric.

It is my hope that all Government agencies and other stakeholders in Education will use the designs to plan for effective and efficient implementation of the CBC.

HON. EZEKIEL OMBAKI MACHOGU, CBS
CABINET SECRETARY,
MINISTRY OF EDUCATION

PREFACE

The Ministry of Education (MoE) is implementing the second phase of the curriculum reforms with the national roll out of the Competency Based Curriculum (CBC) having been implemented in 2019. Grade 8 is the second level of the Junior School (JS) in the new education structure.

Grade 8 curriculum furthers implementation of the CBC from Grade 7. The main feature of this level is a broad curriculum for the learner to explore talents, interests and abilities before selection of pathways and tracks at the Senior School education level. This is very critical in the realization of the Vision and Mission of the on-going curriculum reforms as enshrined in the Sessional Paper No. I of 2019 whose title is: *Towards Realizing Quality, Relevant and Inclusive Education and Training for Sustainable Development* in Kenya. The Sessional Paper explains the shift from a Content - Focused Curriculum to a focus on **Nurturing every Learner's potential.**

Therefore, the Grade 8 curriculum designs are intended to enhance the learners' development in the CBC core competencies, namely: Communication and Collaboration, Critical Thinking and Problem Solving, Creativity and Imagination, Citizenship, Digital Literacy, Learning to Learn and Self-efficacy.

The curriculum designs provide suggestions for interactive and differentiated learning experiences linked to the various sub strands and the other aspects of the CBC. The curriculum designs also offer several suggested learning resources and a variety of assessment techniques. It is expected that the designs will guide teachers to effectively facilitate learners to attain the expected learning outcomes for Grade 8 and prepare them for smooth transition to the next Grade. Furthermore, it is my hope that teachers will use the designs to make learning interesting, exciting and enjoyable.

DR. BELIO KIPSANG', CBS
PRINCIPAL SECRETARY
STATE DEPARTMENT FOR BASIC EDUCATION
MINISTRY OF EDUCATION

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. The curriculum development process for any level of education involves thorough research, international benchmarking and robust stakeholder engagement. Through a systematic and consultative process, the KICD conceptualised the Competency Based Curriculum (CBC) as captured in the *Basic Education Curriculum Framework* (BECF), that responds to the demands of the 21st Century and the aspirations captured in the Kenya Constitution 2010, the Kenya Vision 2030, East African Community Protocol and the United Nations Sustainable Development Goals (SDGs).

KICD receives its funding from the Government of Kenya to enable the successful achievement of the stipulated 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 8 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. Therefore, the Institute is very grateful for the support of the Government of Kenya, through the MoE and the development partners for the policy, resource and logistical support. Specifically, special thanks to the Cabinet Secretary – MoE and the Principal Secretary – State Department for Basic Education,

We also wish to acknowledge the KICD curriculum developers and other staff, all teachers, educators who took part as panelists; the Semi-Autonomous Government Agencies (SAGAs) and representatives of various stakeholders for their roles in the development of the Grade 8 curriculum designs. In relation to this, we acknowledge the support of the –Chief Executive Officers of the Teachers Service Commission (TSC) and the Kenya National Examinations Council (KNEC) for their support in the process of developing these designs.

Finally, we are very grateful to the KICD Council Chairperson Prof. Elishiba Kimani and other members of the Council for very consistent guidance in the process. We assure all teachers, parents and other stakeholders that these curriculum designs will effectively guide the implementation of the CBC at Grade 8 and preparation of learners for Grade 9.

PROF. CHARLES O. ONG'ONDO, PhD, MBS
DIRECTOR/CHIEF EXECUTIVE OFFICER
KENYA INSTITUTE OF CURRICULUM DEVELOPMENT

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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	5
5.	Pre-Technical and Pre-Career	4
6.	Social Studies	4
7.	Religious Education (CRE/IRE/HRE)	3
8.	Business Studies	3
9.	Agriculture	3
10.	Physical Education and Sports	2
11.	Optional Subject	3
12.	Optional Subject	3
	Total	**44**

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

LEVEL LEARNING OUTCOMES FOR JUNIOR 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

Braille is a system of reading and writing using raised dots to convey meaning. It is a tactile code through which letters and numbers are represented. Braille is a system of writing with contractions that represents a group of letters and words. Symbols in the areas of Mathematics, Integrated science, Music, French and German have special signs in Braille. Braille is the main medium of reading and writing for learners with blindness. It enables the learners to communicate effectively and access information. It is therefore an indispensable tool in the learning process for learners with blindness.

Braille skills enable the learners to acquire competencies in reading and writing placing them at per with their sighted counterparts. This therefore enhances their privacy, independence and self-esteem. The learning area equips learners with appropriate skills that will enable them to grasp concepts in the other subjects offered at lower secondary school level. It also enables learners to acquire skills in tracing, interpreting and drawing of tactile graphics which will enable them to be actively involved in learning. In view of the evolving world, the learning area exposes learners with blindness to the use of digital devices with assistive technology especially devices with refreshable Braille display. This empowers learners to develop digital literacy which is a 21st century skill.

Learners are expected to acquire skills in Science Braille notation which will give them a positive attitude to approach integrated science with confidence. Other Braille skills that are covered at this level include English, Kiswahili, Mathematics, Music, French and German.

Learning of Braille skills is in line with several international and national legal documents which emphasize the use of Braille in learning and communication. Some of these documents include: United Nations Convention on the Rights of the Persons with Disabilities 2006, (*article 24-3a*) and the Constitution of Kenya 2010, (*articles 7 and 54*).

Given that Braille skills is multi-disciplinary, the teaching of its strands should be done in an alternating manner. The choice of strand and sub strand to be learnt should be informed by the skills required in different subjects. If the skills of units of measurement comes first in Mathematics, then the sub strand on units of measurement in Braille skills should be given priority over the other skills. For the area of elective which include; French, German and Music Braille, the learner will only be obliged to pursue relevant Braille skills in the areas chosen.

GENERAL LEARNING OUTCOMES

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

1. Use Braille reading and writing skills to promote learning.
2. Use Braille writing and reading equipment and materials in learning and communication.
3. Use digital devices with assistive technologies to enhance learning and communication.
4. Make and interpret tactile graphics for learning.
5. Apply Braille skills in learning different learning areas offered in junior secondary level.
6. Promote safety and responsibility when using digital devices, Braille equipment and materials.

1.0 BRAILLE READING AND WRITING EQUIPMENT AND MATERIALS

Strand	Sub Strand	Specific Learning Outcome	Suggested Learning Experiences	Key Inquiry Question
1.0 BRAILLE READING AND WRITING EQUIPMENT AND MATERIALS	1.1 **Digital devices with assistive technology.** (3 Lessons)	By the end of the sub strand, the learner should be able to; a) identify features of digital devices with Braille display for reading Braille work, b) read Braille texts using digital devices with Braille display, c) identify features of digital devices with assistive technology for writing Braille, d) write Braille text using digital devices with assistive technology, e) enjoy reading and writing Braille text using digital devices with assistive technology.	● In groups or pairs, the learner be guided to identify features of digital devices used in reading Braille text such as Focus 20, smart beetle, orbit reader and Braille me. ● In pairs the learner be guided to use digital devices with refreshable Braille displays to read text in Braille. ● In groups or pairs learners be guided to identify features of digital devices with assistive technology, which include: buttons, keys, ports and Braille display. ● In pairs learners be guided to use of digital devices to write texts in Braille. ● In groups learners play games on reading and writing Braille using digital devices with assistive technology for enjoyment.	How do you establish the appropriate digital devices to read and write text?

Core Competencies to be developed

Digital literacy; as the learner use digital devices with assistive technology to read and write in Braille

Learning to learn; as the learner apply the skills learnt to read and write their own work.

Communication and collaboration; as the learner discuss in groups how to use digital devices with assistive technology.

Pertinent and Contemporary Issues	Values
Effective communication; as the learner express their ideas during the discussion groups. **Mentorship and peer education;** as the learner support each other during group activities.	**Responsibility;** as the learner care for digital devices as they use them**.** **Love;** as the learner take turns to play games on reading and writing Braille

Link To other Learning Areas:
English and Kiswahili; as the learner read texts written in English or Kiswahili
Religious studies; as the learner use digital devices to read religious education text.

Suggested Non Formal Activity that Support Learning:	**Suggested Assessment Modes**
Learners participate in writing minutes in their club and societies meeting using digital devices with refreshable Braille displays.	• Oral assessment • self and peer assessment.

Suggested Learning Resources:

- Refreshable Braille display-Braille me, orbit reader, digital devices with assistive technology.

Suggested Assessment Rubric

Criteria	**Exceeds Expectation**	**Meets Expectation**	**Approaches Expectation**	**Below Expectation**
Identifying features of digital devices with Braille display for reading Braille work	Identifies features of digital devices with Braille display for reading Braille work and further state their function.	Identifies features of digital devices with Braille display for reading Braille work.	Makes significant effort to identify features of digital devices with Braille display for reading Braille work.	Makes little effort to identify features of digital devices with Braille display for reading Braille work.
Reading Braille texts using digital devices with Braille display.	Reads Braille texts using digital devices with Braille display and search for other reading materials.	Reads Braille texts using digital devices with Braille display.	Makes significant effort to read Braille texts using digital devices with Braille display.	Makes little effort to read Braille texts using digital devices with Braille display.
Identifying features of digital devices with assistive technology for writing Braille,	Identifies features of digital devices with assistive technology for writing Braille and further state their function.	Identifies features of digital devices with assistive technology for writing Braille,	Makes significant effort to identify features of digital devices with assistive technology for writing Braille.	Makes little effort to identify features of digital devices with assistive technology for writing Braille.

Writing using digital devices for writing in Braille	Writes and saves various Braille materials using digital devices for writing in Braille	Writes using digital devices for writing in Braille	Makes significant effort to write using digital devices for writing in Braille	Makes little effort to write using digital devices for writing in Braille

2.0 BRAILLE READING SKILLS

Strand	Sub Strand	Specific Learning Outcome	Suggested Learning Experiences	Key Inquiry Question
2.0 BRAILLE READING SKILLS	**2.1 Tactile Graphics** (2 lessons)	By the end of the sub-strand the learner should be able to; a) identify tactile graphics by manipulating, b) interpret tactile graphics through tracing, c) care for and store tactile graphics safely after use, d) appreciate the use of tactile graphics to enhance learning.	● In groups learners be guided to manipulate tactile graphics on Braille work cards, which include; bar graphs, frequency tables, square and square root tables, tactile charts- posters and notices, number line and tactile diagrams of cell, cell organelles, leaf, heart, blood vessels, female and male reproductive system, digestive system and net of solids such as cubes, cuboids and triangle. ● In groups learners be guided to identify tactile graphics on Braille work cards through manipulation. ● Learners be guided to trace and interpret information on the tactile graphics. ● In pairs or groups learners practice tracing and interpreting tactile graphics. ● Learners be guided to take proper care while handling tactile materials. ● Learners be guided to store tactile materials carefully after use. **Project**- In groups, learners prepare tactile graphics using locally available materials.	How are tactile graphics intepreted?

Core Competencies to be developed

Communication and collaboration; as the learner interact in groups when tracing and interpreting tactile graphics.

Critical thinking and problem solving; as the learner interpret and analyze information from the tactile graphics.

Creativity and imagination; as the learner prepare tactile graphics as they worked on the project using locally available materials.

Pertinent and Contemporary Issues	**Values**
● **Environmental issues in education;** as the learner prepare tactile graphics using locally available materials to minimize environmental pollution. ● **Safety issues**; as the learner observe safety measures while preparing tactile graphics.	**Responsibility:** as the learner take proper care of tactile graphics while handling them.

Link to other Subjects:

Mathematics, Social studies, Creative Arts, Music, Integrated science; as the learner apply the acquired skills to trace and interpret tactile graphics in the aforementioned learning areas.

Suggested Non Formal Activity that Support Learning	**Suggested Assessment Modes**
Learners could visit the school resource room and practice tracing and interpreting information on tactile graphics.	• Oral questioning, • Self-assessment, • Peer assessment • Observation

Suggested Learning Resources:

Tactile line graphs, curve, pie charts, tracing board, Braille material, sands, wood glue, sticks, soil, thread, soft wires, shapes, tactile globes, flow charts.

Suggested Assessment Rubric

Criteria	**Exceeds Expectation**	**Meets Expectation**	**Approaches Expectation**	**Below Expectation**
Identifying tactile graphics by manipulating.	Identify tactile graphics by manipulating and name features of different tactile graphics.	Identify tactile graphics by manipulating.	Makes significant effort to identify tactile graphics by manipulating.	Makes little effort to identify tactile graphics by manipulating.
Interpreting tactile materials through tracing.	Interprets tactile materials through a variety of ways.	Interprets tactile materials through tracing.	Makes significant effort to interpret most of tactile materials through tracing.	Makes little effort to interpret most of tactile materials through tracing.

Caring for and storing tactile graphics safely after use.	Cares for and store tactile graphics safely after use in a variety of ways.	Cares for and store tactile graphics safely after use.	Makes significant effort to care for and store most tactile graphics safely after use.	Makes little effort to care for and store most tactile graphics safely after use.

Strand	**Sub Strand**	**Specific Learning Outcome**	**Suggested Learning Experiences**	**Key Inquiry Question**
2.0 BRAILLE READING SKILLS	2.2 **Key features of a Braille text** (2 lessons)	By the end of the sub strand the learner should be able to; a) identify layout of functional writing items on Braille books, b) Read functional writing items on Braille books, c) Differentiate the layout of functional writing items in Braille, d) show curiosity in reading functional writing items in Braille.	● In pairs, learners are guided to manipulate functional writing items which include formal letters, thank you note, congratulatory note and personal journals. ● Learners are guided to identify the layout of functional writing items on Braille books. ● Learners could read functional writing items on Braille books. ● In groups learners could differentiate the layout of functional writing items in Braille.	How do we identify the layout of functional writing items in Braille?

Core Competencies to be Developed

- **Communication and collaboration;** as the learner interact in groups when manipulating functional writing items.
- **Critical thinking and problem solving;** as the learner differentiate the layout of functional writing items in Braille.

Pertinent and Contemporary Issues	**Values**
● **Mentorship and Peer education:** as the learner support each other in groups to identify layout of functional writing items. ● **Social cohesion**: as the learner work in groups to promote values of sharing, tolerance and respect.	● **Unity**; as the learner work harmoniously in groups. ● **Respect;** as the learner appreciate each other's opinion during group work.

Link to other Subjects **English and Kiswahili** – as the learner apply knowledge on layout of functional writing items learning of aforementioned learning areas.	
Suggested Non Formal Activity that Support Learning: Learners visit the school resource room to identify the layout of the functional writing items from Braille books.	**Suggested Assessment Modes** Oral questions, self-assessment, and peer assessment and observation
Suggested Learning Resources: copies of formal letters, thank you note, congratulatory note and personal journals.	

Suggested Assessment Rubric

Criteria	Exceeds Expectation	Meets Expectation	Approaches Expectation	Below Expectation
Identifying layout of functional writing items in Braille.	Identify layout of functional writing items in Braille and give layout of more items.	Identify layout of functional writing items in Braille.	Makes significant effort to identify layout of some functional writing items in Braille.	Makes little effort to identify layout of some functional writing items in Braille.
Reading functional writing items in Braille.	Reads functional writing items in Braille and identify other functional writing items.	Reads functional writing items in Braille.	Makes significant effort to read most functional writing items o in Braille.	Makes significant effort to read most functional writing items o in Braille.
Differentiating the layout of functional writing items in Braille.	Differentiate the layout of functional writing items in Braille citing a variety of examples.	Differentiate the layout of functional writing items in Braille.	Makes significant effort to differentiate the layout functional writing items in Braille.	Makes little effort to differentiate the layout functional writing items in Braille.

3.0 BRAILLE WRITING SKILLS

Strand	Sub Strand	Specific Learning Outcome	Suggested Learning Experiences	Key Inquiry Question
3.0 BRAILLE WRITING SKILLS	**3.1 Tactile Graphics 2 lessons**	By the end of the sub-strand the learner should be able to; a) draw tactile graphics using Braille materials and equipment, b) make tactile graphics using locally available materials, c) care for and store tactile graphics safely after use, d) enjoy drawing and making tactile graphics to enhance learning.	● Learners be guided to identify materials and equipment for drawing tactile graphics which include; spur wheel, tracing mat, Braille machine, cut outs, adhesive labels, outlines and Braille papers. ● Learners be guided to draw tactile graphics using Braille material and equipment. The tactile graphics may include; net of solids for cubes, cylinder, cuboids and triangular based prism, flow charts, food web, leaf, plant and blood vessels. ● Learners be guided to name and label the tactile graphic drawn, for example labeling the vertices of nets of solids using letters. ● In pairs the learner be guided to identify locally available materials that could be used to make tactile graphics for example; sands, wood glue, sticks, soil, thread, cotton, grains. ● Learners be guided to make tactile graphics using locally available materials for example; maps, a diagram of the heart, and a diagram of breathing system. ● Learners be guided to name and label the tactile graphics made. ● In groups or pairs learners are guided to take proper care of tactile materials. ● Learners be guided to store tactile materials carefully.	How do you make tactile graphics?

			• Learners be guided to practice drawing and making tactile graphics.	

Core Competencies to be Developed • **Communication and collaboration:** as the learner work in pairs and in groups to draw and make tactile graphics. • **Creativity and imagination;** as the learner make tactile graphics.	
Pertinent and Contemporary Issues • **Environmental issues in education**; as the learner make tactile graphics using locally available materials to minimize pollution. • **Safety issues** ; as the learner observe safety measures while using sharp objects when making tactile graphics.	**Values:** • **Responsibility;** as the learner care for and store tactile graphics safely after use. • **Love**; as the learner share the locally available resources
Link to other Subjects **Mathematics, Social studies, Creative Arts, Music, Integrated science.** as the learner apply the acquired skills in performing tasks in the aforementioned learning areas.	
Suggested Non Formal Activity that Support Learning: Learners could visit the school resource room and work with school transcriber to draw and make tactile graphics.	**Suggested Assessment Modes** • Oral questions, self-assessment, peer assessment and observation.
Suggested Learning Resources: Pairs of scissors, Braille material, sands, wood glue, sticks, soil, thread, cotton, cardboard, tracing mat, spur wheel, adhesive labels, thumb pins and grains.	

Suggested Assessment Rubric

Criteria	Exceeds Expectation	Meets Expectation	Approaches Expectation	Below Expectation
Drawing tactile graphics using Braille materials and equipment.	Draws and label tactile graphics using Braille materials and equipment.	Draws tactile graphics using Braille materials and equipment.	Makes significant effort to draw tactile graphics using Braille materials and equipment.	Makes little effort to draw tactile graphics using Braille materials and equipment.
Making tactile graphics using locally available materials.	makes and label tactile graphics using locally available materials.	Makes tactile graphics using locally available materials.	Makes significant effort in making tactile graphics using locally available materials.	Makes little effort in making tactile graphics using locally available materials.
Caring for and storing tactile graphics safely after use.	Cares for and store tactile graphics safely after use in a variety of ways.	Cares for and store tactile graphics safely after use.	Makes significant effort to care for and store tactile graphics safely after use.	Makes little effort to care for and store tactile graphics safely after use.

BRAILLE WRITING SKILLS

Strand	Sub Strand	Specific Learning Outcome	Suggested Learning Experiences	Key Inquiry Question
BRAILLE WRITING SKILLS	3.**2 Indenting** **2 lessons**	By the end of the sub strand, the learner should be able to; a) identify features of indented text from Braille books, b) write documents using the right indentation in Braille, c) c) show interest in writing documents using the right indentation.	• In groups or pairs learners be guided to identify features of indented text from letters, dialogues and multilevel lists. • In pairs or groups, the learner be guided to write documents using the right indentation in Braille for example, centering, aligning to left or right and starting at cell 3 or 1. • Learners practice writing documents using the right indentation.	1. How do you indent a text in Braille? 2. How do you write a well formatted document in Braille?

Competencies to be developed

- **Creativity and imagination;** as the learner write documents using the right indentation.
- **Communication and collaboration:** as the learner interact while working in groups.

Pertinent and Contemporary Issues • **Social cohesion;** as the learner interact with one another in groups. • **Social awareness skills:** as the learner try to express their ideas well during the discussion groups.	**Values** • **Responsibility;** as the learner take good care of learning materials provided. • **Love;** as the learner share learning materials provided.
Link to other Subjects **English and Kiswahili:** as the learner write indented documents.	**Suggested Community Service Learning** Learners could visit a public library to learn interact with journals and articles to learn more on how indentation is used.
Suggested Non Formal Activity that Support Learning Learners participate in writing various indented documents during language club.	**Suggested Assessment Modes** • Oral questions, self and peer assessment, written assignments, observation.

Suggested Learning Resources:
Braille machine, Braille paper, Braille work cards.

Suggested Assessment Rubric

Criteria	Exceeds Expectation	Meets Expectation	Approaches Expectation	Below Expectation
Identifying features of indented text from Braille books.	Identifies features of indented text from Braille books and give reason for indentation.	Identifies features of indented text from Braille books.	Makes significant effort to identify features of indented text from Braille books	Makes little effort to identify features of indented text from Braille books
Writing documents using the right indentation in Braille.	Writes a variety of documents using the right indentation in Braille	Writes documents using the right indentation in Braille.	Makes significant effort in writing documents using the right indentation in Braille,	Makes little effort in writing documents using the right indentation in Braille,

4.0 ENGLISH BRAILLE

Strand	Sub Strand	Specific Learning Outcome	Suggested Learning Experiences	Key Inquiry Question
4.0 ENGLISH BRAILLE	**4.1 POETRY LAYOUT 2 lessons**	By the end of the sub-strand the learner should be able to; a) identify features of a poem written in Braille following line by line style, b) read a poem written in Braille following line by line style, c) write a poem in Braille following line by line style, d) appreciate use of line by line style in reading and writing poetry in Braille.	• Learners are guided to identify features of a poem written in Braille following line by line style which include; beginning of text in line one, beginning of text in line two up to the last line and beginning of text in runovers • Learners are guided to read a poem written in Braille following line by line style. • Learners are guided to write a poem in Braille following line by line style. • in pairs or groups learners could practice reading and writing poems following the line by line styles.	How do you write a poem in Braille?

Core Competencies to be developed

- **Communication and collaboration;** as the learner work together in groups as they read and write poems in Braille following line to line method.
- **Self – efficacy;** as the learner gain confidence in writing poems in Braille following line by line style and as they do peer evaluation of each other's poems.

Pertinent and Contemporary Issues	Values
Social cohesion ; This is realized as learners from different ethnic groups work together during peer review of their own composed poems written in Braille using Line by line method.	**Patriotism;** as the learner demonstrate patriotism as they read and write poems promoting nationhood following line by line style.

Links to other Subjects

- **English language, Kiswahili French, German Chinese:** as the learner use the knowledge acquired to perform tasks involving poetry in the above-mentioned learning areas.

Suggested non formal activity to support learning Learners could write poems in both line-to-line method and present to their colleagues during assembly.	**Suggested Assessment Modes** Peer assessment, observation, oral questions, written questions.
Suggested Learning Resources • Braille machines, Braille work cards, Braille papers, Braille books.	

Suggested Assessment Rubric

Criteria	Exceeds Expectation	Meets Expectation	Approaches Expectation	Below Expectation
Identifying features of a poem written in Braille following line by line style.	Identifies features of a poem written in Braille following line by line style giving more explanation on the features.	Identifies features of a poem written in Braille following line by line style.	Makes significant effort to identify most of the features of a poem written in Braille following line by line style.	Makes little effort to identify most of the features of a poem written in Braille following line by line style.
Reading a poem written in Braille following line by line style.	Reads with fluency a poem written in Braille following line by line style	Reads a poem written in Braille following line by line style.	Shows significant effort to read a poem written in Braille following line by line style.	Shows little effort to read a poem written in Braille following line by line style.
Writing a poem in Braille following line by line style,	Writes a poem in Braille following line by line style and even compose and write his/her own poem using the same style.	Writes a poem in Braille following line by line style.	Shows significant effort to write a poem in Braille following line by line style incorporating most of the features	Shows little effort to write a poem in Braille following line by line style incorporating most of the features

STRAND	SUB STRAND	SPECIFIC LEARNING OUTCOME	SUGGESTED LEARNING EXPERIENCES	KEY INQUIRY QUESTION
ENGLISH BRAILLE	**4.2 Punctuation signs: capital sign and phonemic brackets** (2 lessons)	By the end of the sub-strand the learner should be able to; a) identify punctuation indicators signs in Braille, b) read Braille text consisting of punctuation indicators signs in Braille, c) write Braille text involving punctuation indicators signs in Braille, d) appreciate the use of punctuation indicators signs in Braille.	• Learners are guided to identify punctuation indicators signs in Braille such as: capital sign used as single sign, double capital sign, triple capital sign, the capital terminator and phonemic brackets in Braille text. • Learners are guided read Braille text consisting of punctuation indicators signs, • Learners are guided to write Braille text involving punctuation indicators signs. • In pairs or groups learners are guided to use digital devices with assistive technology to read and write Braille text involving punctuation indicators signs in Braille.	How do you write indicators in Braille?

Core Competencies to be developed

- **digital literacy;** as the learner use digital devices with assistive technology to read and write Braille text involving capital sign and phonemic brackets while noting and observing the rules,
- **Communication and collaboration**; as the learner work together in reading and writing text with capital sign and phonemic brackets.

Pertinent and Contemporary Issues	Values
Social cohesion; this is achieved as learners from different ethnic groups work together in a group reading and writing Braille text with capital signs and phonemic brackets.	• **Responsibility:** as the learner take care of the digital devices as they use them to perform class tasks involving capital sign and phonemic brackets..

Link to other Subjects

English Language, Kiswahili, integrated science, performing arts: as the learner use capital signs and phonemic brackets when taking notes, and performing other tasks in the above-mentioned learning areas.

Suggested non formal activity to support learning:	Suggested Assessment Modes
Learners could go to the library, pick out an excerpt from a Braille story book and learn more on use of capital sign and phonec brackets.	Oral questions, written questions, observation.

Suggested learning resources: Braille machines, Braille papers, Braille books, digital devices with assistive technology.

Suggested Assessment Rubric

Criteria	**Exceeding Expectation**	**Meeting Expectation**	**Approaching Expectation**	**Below Expectation**
Identifying punctuation indicators signs in Braille. .	Identifies 6 punctuation indicators signs including how they are used in Braille. .	Identifies 6 punctuation indicators signs in Braille.	Identifies 3-4 punctuation indicators signs in Braille. .	Identifies less than 2 punctuation indicators signs in Braille.
Reading Braille text consisting of punctuation indicators signs in Braille	Reads Braille text consisting of punctuation indicators signs in Braille fluently	Reads Braille text consisting of 6 punctuation indicators signs in Braille.	Reads Braille text consisting of 3-4 punctuation indicators signs in Braille	Reads Braille text consisting of less than 2 punctuation indicators signs in Braille
Writing Braille text involving punctuation indicators signs in Braille.	Writes Braille text involving punctuation indicators signs in Braille citing examples.	Writes Braille text involving 6 punctuation indicators signs in Braille.	Writes Braille text involving 3-4 punctuation indicators signs in Braille.	Writes Braille text involving less than 2 punctuation indicators signs in Braille.

5.0 BRELI YA KISWAHILI

Mada	Mada ndogo	Matarajio Maalum	Mapendekezo ya Shughuli za Somo	Maswali Dadisi
5.0 **BRELI YA KISWAHILI**	5.1 Mpangilio wa mashairi unao zingatia mbinu ya mstari baada ya mstari. Vipindi 2	Kufikia mwisho wa mada ndogo, mwanafunzi aweze: a) Kutambua vipengele vya mashairi yaliyoandikwa kwa mpangilio wa mstatri baada ya mstari katika breli. b) kusoma mashairi kwa breli kwa kuzingatia mpangilio wa mstari baada ya mstari, c) Kuandika mashairi akizingatia mpangilio wa mstari baada ya mstari katika breli. d) Kufuraia kusoma na kuandika mashairi yanayo fuata mpangilio wa mstari baada ya mstari katika breli.	● Kwa vikundi wanafunzi waelekezwe kutambua vipengele vya mashairi yaliyoandikwa kwa mpangilio wa mstatri baada ya mstari katika breli. kama vile, sehmu ya kuanzisha mstari wa kwanza, sehemu ya kuanzisha mstari wa pili hadi wa mwisho, namna ya kuandika maneno yaliyozidi mstari. ● Kwa vikundi wanafunzi waelekezwe kusoma mashairi yaliyo andikwa kwa breli huku wakizingatia mpangilio wa mstari baada ya mstari. . ● Wanafunzi wakiwa wawili wawili waelekezwe kuandika mashairi kwa breli wakitumia mpangilio wa mstari baada ya mstari. ● Kwa vikundi wanafunzi wafanye mazoezi ya kusoma na kuandika mashairi kwa breli wakitumia mpangilio wa mstari baada ya mstari.	Ni vipi unavyoandika mashairi kwa breli?.
Umilisi wa kimsingi unaokuzwa				

• **Mawasiliano na ushirikiano—**hukuzwa wakati wanafunzi wanapokuwa katika vikundi wakitambua mpangilio ya mstari baada ya mstari katika mashairi ya breli kwa pamoja. • **Ufanisi wa kibinafsi**--- hukuzwa wakati wanafunzi wanapoonyesha umahiri na uchangamfu katika kusoma na kuandika mashairi.
Uhusiano wa masuala mtambuko **Uongozi hitajika—**hukuzwa wakati wanafunzi wanapofanya kazi katika vikundi huku wakitoa uongozi kwa zamu.
Uhusiano na masomo mengine Kiswahili, kiigereza, kijerumani, kifaransa.—wakati wanafunzi wanaposoma na kuandika mashairi yenye mpangilio wa mstari baada ya mstari katika masomo hayo.

Shughuli za kila siku zisizoratibiwa zinazochangia ujifunzaji: Wanafunzi wakiwa kwa vilabu vyao shuleni,wanaweza kushiriki katika mazoezi ya kusoma na kuandika mashairi yanayozingatia mpangilio wa mstari baada ya mstari kwa breli.	**Mapendekezo ya tathmini** Maswali kwa sauti, maswali ya kuandika, tathmini ya rika, kujitathmini na tathmini ya kutazama.
Nyenzo Karatasi za breli, vitabu vya breli ya kiswahili, mashine za breli.	

KIWANGO CHA TATHMINI

VIGEZO	ANAZIDI MATARAJIO	ANATIMIZA MATARAJIO	ANAKARIBIA MATARAJIO	CHINI YA MATARAJIO
Kutambua vipengele vya mashairi yaliyoandikwa kwa mpangilio wa mstatri baada ya mstari katika breli.	hutambua na kuelezea mpangilio wa mstari baada ya mstari katika mashairi ya breli huku akifafanua zaidi binu hiyo.	hutambua vipengele vya mashairi yaliyoandikwa kwa mpangilio wa mstatri baada ya mstari katika breli.	hutambua baadhi ya vipengele vya mbinu ya mstari baada ya mwingine.katika mashairi ya breli	hutambua kipengele kimoja cha mbinu ya mstari baada ya mwingine.katika mashairi ya breli
kusoma mashairi kwa breli kwa akizingatia mpangilio wa mstari baada ya mstari.	husoma kwa ufasaha mashairi katika breli akizingatia mpangilio wa mstari baada ya mstari.	husoma mashairi kwa breli kwa akizingatia mpangilio wa mstari baada ya mstari.	husoma mashairi kwa breli akizingatia baadhi ya vipengele vya	husoma mashairi kwa breli bila kuzingatia vipengele vya mpangilio wa mstari baada ya mstari.

			mpangilio wa mstari baada ya mstari.	
kuandika mashairi akizingatia mpangilio wa mstari baada ya mstari katika breli.	hutunga na kuandika mashairi kwa breli akizingatia mpangilio wa mstari baada ya mstari.	huandika mashairi akizingatia mpangilio wa mstari baada ya mstari katika breli.	huandika mashairi kwa breli akizingatia baadhi ya vipenegele vya mpangilio wa mstari baada ya mstari.	huandika mashairi kwa breli bila kuzingatia vipengele vya mpangilio wa mstari baada ya mstari.

Mada	**Mada ndogo**	**Matarajio Maalum**	**Mapendekezo ya shughuli za somo**	**Swali Dadisi**
	5.2 Alama za Kuakifisha Kipindi 2	Kufikia mwisho wa mada ndogo,mwanafunzi aweze: a) Kutambua alama za kuakifisha kwa breli, b) Kusoma makala yaliyo na alama za kuakifisha kwa breli. c) Kuandika Makala kwa breli yaliyo na alama za kuakifisha, d) Kuonyesha shauku ya kutumia alama za kuakifisha kwa breli .	• Kwa vikundi au wawili wawili, mwanafunzi aelekezwe kutambua nukta nundu zinazounda alama za kuakifisha zifuatazo kwa breli; alama ya herufi kubwa na alama ya herufi. • Mwanafunzi aelekezwe Kusoma makala yaliyo na alama za kuakifisha kwa breli. • Mwanafunzi aelekezwe kuandika makala kwa breli yaliyo na alama za kuakifisha, • Kwa vikundi au wawili wawili wanafunzi wafanye mazoezi ya kusoma na kuandika	Unaandika vipi neno lililoandikwa herufi kubwa kwa breli?

Umilisi wa kimsingi unaokuzwa **Mawasiliano na ushirikiano**—hukuzwa wakati wanafunzi wanapo fanya kazi pamoja wakiwa kwa vikundi. **Ufanisi na ubinafsi**--- hukuzwa wakati wanafunzi wanapoonyesha umahiri kwa kutumia alama za kuakifisha vilivyo kwa breli.	
Uhusiano na masuala mtabuko	**Uhusiano wa maadili** **Heshima**— hukuzwa wakati wanafunzi wakifanya kazi kwa vikundi huku wakithamini maoni ya wenzao.

Ushauri na elimu rika---hukuzwa wakati wanafunzi wanapofanya kazi kwa vikundi huku wakishauriana na kusaidiana.	
Uhusiano na masomo mengine **K**iswahili, kiingereza kijerumani, kifaranza.—wakati wanafunzi wanapoandika makala mbalimbali katika masomo hayo wakizingatia alama ya alama ya herufi kubwa na alama ya herufi.	
Shughuli za kila siku zisizoratibiwa zinazochangia ujifunzaji: Wanafunzi wakiwa kwenye chama cha kiswahili shuleni, wafanye zoezi la kuandika makala ya breli wakizingatia alama za kuakifisha.	**Mapendekezo ya Tathmini** Maswali kwa sauti, maswali ya kuandika, tathmini ya rika, kujitathmini na tathmini ya kutazama.
NYENZO Karatasi za breli, vitabu vya breli ya kiswahili, mashine za breli na nakala za wino.	

Kiwango cha Tathmini

Vigezo	Anazidi Matarajio	Anatimiza matarajio	Anakaribia Matarajio	Chini ya Matarajio
Kutambua alama za kuakifisha kwa breli,	hutambua alama 7 za kuakifisha kwa breli na pia kueleza vile zinavyotumiwa kwa breli,	hutambua alama 7 za kuakifisha kwa breli,	hutambua alama 3-5za kuakifisha kwa breli,	hutambua alama 2 au chini ya 2 za kuakifisha kwa breli,
Kusoma makala yaliyo na alama za kuakifisha kwa breli.	husoma kwa ufasaha makala yaliyo na alama za kuakifisha 7 kwa breli.	husoma makala yaliyo na alama za kuakifisha 7 kwa breli.	husoma makala yaliyo na alama za kuakifisha kwa breli 3-5 kwa breli.	husoma makala yaliyo na alama za kuakifisha 2 au chini ya 2 kwa breli.

Kuandika makala kwa breli yaliyo na alama za kuakifisha	huandika makala kwa breli yaliyo na alama za kuakifisha 7 akizingatia sheria muafaka.	huandika makala kwa breli yaliyo na alama za kuakifisha	uahndika makala kwa breli yaliyo na alama za kuakifisha 3-5 kwa breli	huandika makala kwa breli yaliyo na alama za kuakifisha 2 au chini ya 2

6.0 MATHEMATICS BRAILLE NOTATION

Strand	Sub Strand	Specific Learning Outcome	Suggested Learning Experiences	Key Inquiry Question
6.0 MATHEMATICS BRAILLE NOTATION	**6.1 Numbers in Braille** (2 lessons)	By the end of the sub-strand the learner should be able to; a) read positive and negative integers in Braille, b) write positive and negative integer in Braille, c) read expressions involving positive and negative integers, d) write expressions involving positive and negative integers, e) read decimal numbers in standard form in Braille, f) enjoy reading and writing positive and negative integers in Braille.	• In groups or pairs, learners are guided to identify positive and negative integers in Braille on Braille work cards. • In groups or pairs, learners are guided to write positive and negative integers in Braille. • in groups or pairs learners are guided to read expressions involving positive and negative integers in Braille using a digital device with refreshable Braille. • Learners to write expressions involving positive and negative integers in Braille • In groups or pairs learners are guided to read decimal numbers in standard form in Braille-on-Braille work card. • Learners to write decimal numbers in standard form in Braille. • Learners practice reading and writing expressions involving positive and negative integers and decimals in standard form in Braille.	Why do you write decimals in standard form?

Core Competencies to be developed

Communication and collaboration; as the learner interact in groups when reading and writing negative and positive integers.

- **Digital literacy;** as the learner use digital devices with refreshable Braille to read expressions involving negative and positive integers.

Pertinent and Contemporary Issues • **Good governance;** as the learner take up leadership roles as they work in groups • **Friendship formation**; this is developed as learners work in groups	**Values** • **Respect**; as the learner listen to each other's opinion while working in groups to achieve set goals • **Patriotism;** as the learner work together with others in group irrespective of their backgrounds
Link to other Subjects **Mathematics and Integrated science;** as the learner apply the skill acquired in solving problems in the above stated learning areas.	
Suggested Non-Formal Activity that Support Learning Learners write expressions involving positive and negative integers in Braille and share with their peers during maths club.	**Suggested Assessment Modes** • Peer and self-assessment, observation, portfolio
Suggested Learning Resources: Braille work cards, Braille machines, Braille papers and digital devices with refreshable Braille.	

Suggested Assessment Rubric

Criteria	Exceeds Expectation	Meets Expectation	Approaches Expectation	Below Expectation
Reading positive and negative integers in Braille.	Reads positive and negative integers in Braille and further arrange the integers in a sequence.	Reads positive and negative integers in Braille.	Makes significant effort to read positive and negative integers in Braille.	Makes little effort to read positive and negative integers in Braille.
Writing positive and negative integers in Braille.	Writes positive and negative integers in Braille and state the value of each integer.	Writes positive and negative integers in Braille.	Makes significant effort to write most positive and negative integers in Braille.	Makes little effort to write positive and negative integers in Braille.
Reading and writing expressions involving positive and negative integers.	Reads and write expressions involving positive and negative	Reads and write expressions involving positive and negative integers.	Makes significant effort to read and write expressions involving	Makes little effort to read and write expressions involving positive and negative integers.

	integers and further simplify them.		positive and negative integers.	
Reading decimal numbers in standard form in Braille.	Reads decimal numbers in standard form in Braille and arrange them in a sequence.	Reads decimal numbers in standard form in Braille.	Makes significant effort to read decimal numbers in standard form in Braille.	Makes little effort to read decimal numbers in standard form in Braille.
Writing decimal numbers in standard form in Braille.	Writes decimal numbers in standard form in Braille and state value of each number.	Writes decimal numbers in standard form in Braille.	Makes significant effort to write decimal numbers in standard form in Braille.	Makes little effort to write decimal numbers in standard form in Braille.

Strand	**Sub Strand**	**Specific Learning Outcome**	**Suggested Learning Experiences**	**Key Inquiry Question**
MATHEMATICS BRAILLE	**6.2 Mathematics Signs** (2 lessons)	By the end of the sub-strand the learner should be able to; a) identify mathematics signs in Braille, b) read mathematics expressions involving mathematics signs in Braille, c) write mathematics expressions involving mathematics signs in Braille, d) appreciate the use of mathematics signs in learning.	• In groups or pairs learners are guided to identify mathematics signs in Braille on a Braille work card, which include; summation sign, bar sign inequalities sign - greater than or equal to, less than or equal to, bearing, Trigometric ratio sign- sine,cosine and tangent. • Learners are guided to read mathematics expressions involving mathematics signs in Braille. • In groups or pairs learners are guided to write mathematics expressions involving mathematics signs in Braille. • In groups or in pairs learners practice writing mathematics	Why do we learn the different mathematics signs in Braille?

			expressions involving the mathematics signs.	

Core Competencies to be developed:

- **Learning to learn;** as the learner identify Braille mathematics signs in mathematics expressions**.**
- **communication and collaboration:** as the learner interact in groups during group activities.

Pertinent and Contemporary Issues:	**Values**
• **Social cohesion;** as the learner work together**.** • **Mentorship and peer education;** as the learner support each other during group activities.	• **Unity;** as the learner work together in groups • **Responsibility;** as the learner take care of Braille work cards.

Link to other Subjects

Mathematics and Integrated Science; as learners apply the acquired skills in solving problems in the above stated learning areas.

Suggested Non Formal Activity that Support Learning:	**Suggested assessment:**
Learners to prepare Braille charts with mathematics signs in Braille and hang them in the mathematics club room for reference.	Oral, written assignment/assessment, observation, portfolio, peer and self-assessment

Suggested Learning Resources

Braille work cards, Braille machine and Braille papers.

Suggested Assessment Rubric

Criteria	**Exceeding Expectation**	**Meeting Expectation**	**Approaching Expectation**	**Below Expectation**
Identifying mathematics signs in Braille.	Identifies mathematics signs in Braille and further state how they are used.	Identifies mathematics signs in Braille.	Makes significant effort to identify mathematics signs in Braille.	Makes little effort to identify mathematics signs in Braille.
Reading and writing mathematical expressions involving mathematics signs in Braille.	Read and write mathematical expressions involving mathematics signs in Braille.	Read and write mathematical expressions involving mathematics signs in Braille.	Makes significant effort to read and write most mathematical expressions involving mathematics signs in Braille.	Makes little effort to read and write most mathematical expressions involving mathematics signs in Braille.

Strand	Sub Strand	Specific Learning Outcome	Suggested Learning Experiences	Key Inquiry Question
MATHEMATICS BRAILLE	**6.3 Mathematics Formulas** (2 lessons)	By the end of the sub-strand the learner should be able to; a) read mathematics formulas in Braille, b) write mathematics formulas in Braille, c) appreciate the use of mathematical formulas in Braille in the learning process.	• In groups or pairs learners are guided to read mathematics formulas on Braille work cards which include; the formula for circumference of a circle, Heroes formula, surface area of cubes and cuboids, cylinder and triangular prism, mean and median. • In pairs or groups learners write mathematics formulas in Braille. • In pairs or groups learners practice reading and writing mathematics expressions with mathematics formulas.	Why is it important to learn mathematics formulas in Braille?

Core Competencies to Be Developed

- **Communication and collaboration;** as the learner work together in groups and consult each other.
- **self-efficacy;** as the learner gain confidence in solving questions using mathematics formulas.

Pertinent and Contemporary Issues	Values
• **mentorship and peer education:** this is developed as learners support each other during group activities. • **social cohesion;** This is developed as learners interact while working in groups.	• **love**; as the learner share learning resources during group activity. • **Unity;** as the learner work towards achieving set goals.

Link To other Subjects:
mathematics and Integrated Science; as the learner apply the skills acquired in solving problems in the above stated learning areas.

Suggested Non-Formal Activity that Support Learning	Suggested Assessment Modes
Learner identify objects of different regular shapes in the environment and state the formula that is used to calculate its surface area.	Oral questions, observation, written assignment/ assessment, peer and self-assessment.

Suggested Learning Resources
Braille machine, Braille papers and Braille work cards

Suggested Assessment Rubric

Criteria	**Exceeding Expectation**	**Meeting Expectation**	**Approaching Expectation**	**Below Expectations**
Reading mathematics formulas in Braille	Read mathematics formulas in Braille and state the meaning of each quantity.	Read mathematics formulas in Braille.	Make significant effort to read mathematics formulas in Braille.	Make little effort to read mathematics formulas in Braille.
Writing mathematics formulas in Braille.	Write mathematics formulas in Braille and further derive other formulas.	Write mathematics formulas in Braille.	Make significant effort to write mathematics formulas in Braille.	Make little effort to write mathematics formulas in Braille.

Strand	**Sub Strand**	**Specific Learning Outcome**	**Suggested Learning Experiences**	**Key Inquiry Question**
MATHEMATICS BRAILLE NOTATION	**6.4 Units of Measurement**	By the end of the sub-strand the learner should be able to; a) read units of measurement in Braille, b) write units of measurement in Braille, c) enjoy reading and writing the use of units of measurement in Braille.	● In pairs or groups learners are guided to read units of measurement on a Braille work card which include; velocity, acceleration, longitudes and latitudes-degrees, minutes and seconds. ● In groups or pairs learners are guided to read mathematics statements consisting units of measurement in Braille. ● In groups or pairs learners are guided to write units of measurement in Braille.	Why do you learn to write units of measurement in Braille?

			• learners to practice reading and writing units of measurement in Braille using digital devices with refreshable Braille display.	

Core Competencies to be developed:

- **Communication and collaboration**; as the learner work in groups to read and write units of measurement in Braille.
- **Digital literacy**; as the learner use digital devices with refreshable Braille to read and write units of measurement in Braille.

Pertinent and Contemporary Issues • **Effective communication;** as the learner express their views during group activities. • **conflict resolution and negotiation;** as the learner get to solve any disagreements that may arise as they work in groups.	**Values** • **Respect;** as the learner listen to each other's opinion. • **Responsibility;** as the learner store digital devices appropriately after use.
Link to other Subjects • **Mathematics and Integrated science;** as learners use the units of measurement to quantify the quantities measured.	**Suggested Community Service Learning** The learner may come up with charts on speed limits and place them at various intervals in public places**.**
Suggested Non Formal Activity that Support Learning: Learners record longitudes and latitudes of the world map in neighboring centers in a weather station.	**Suggested Assessment Modes** • Oral, written assignment/assessment, observation, portfolio peer and self-assessment

Suggested Learning Resources:

- Braille machine, Braille paper, Braille work card and digital devices with refreshable Braille display.

Suggested Assessment Rubric

Criteria	Exceeding Expectation	Meeting Expectation	Approaching Expectation	Below Expectations
Reading units of measurement in Braille.	Reads units of measurement in Braille and further state the quantity they measure.	Reads units of measurement in Braille.	Makes significant effort to read units of measurement in Braille.	Makes little effort to read units of measurement of in Braille.
Writing units of measurement in Braille.	Writes units of measurement in Braille and further give examples of mathematics statements.	Writes units of measurement in Braille.	Makes significant effort to write most units of measurement in Braille.	Makes little effort to write most units of measurement in Braille.

7.0 INTEGRATED SCIENCE

Chemistry

Strand	Sub Strand	Specific Learning Outcome	Suggested Learning Experiences	Key Inquiry Question
7.0 SCIENCE BRAILLE NOTATION	7.1 Atomic structure 3 lessons	By the end of the sub strand the learner should be able to; a) identify electron configuration in a tactile structure of an atom, b) write electron configuration of various atoms in Braille, c) make a tactile structure of an atom showing electron arrangement, d) identify Braille representation of atomic number and mass number with the symbol of an element, e) trace a tactile periodic table to identify different periods and groups of the first 20 elements, f) enjoy reading and writing electron configurations of various atoms in Braille.	● Learners are guided to manipulate a tactile atomic structure to identify the nucleus, energy levels, and location of protons, neutrons and electrons. ● In pairs learners are guided to identify electron configuration of atoms for example magnesium, lithium and sulphur by tracing a tactile diagram. ● In groups learners practice to write Braille representation of electron configuration of various atoms using digital devices with refreshable Braille display for example Li- 2.1, Mg- 2.8.2, Ca- 2.8.8.2. ● Learners make a tactile diagram showing electron arrangement of atoms using locally available materials such as thread, wood glue, strings, seed, sand and cardboards. ● Learners are guided to identify Braille representation of atomic number and mass number with the symbol of an element for example $818O$, $1737Cl$. ● In pairs learners are guided to manipulate a tactile periodic table to identify elements in different periods and groups.	Why do we learn how to write electron configuration of various atoms in Braille?

			Project: In groups learners prepare a tactile periodic table using locally available resources.	

Core Competencies to Be Developed

- **Communication and collaboration;** as the learner interact while working in pairs to manipulate a tactile periodic table.
- **Digital literacy;** as the learner use digital devices with refreshable Braille display to write electron configuration of various atoms.
- **Creativity and innovation;** as the learner prepare a tactile periodic table using locally available resources.

Pertinent and Contemporary Issues	**Values**
• **Environmental issues in education;** as the learner use locally available materials to make a tactile atomic structure and periodic table • **Analytical thinking skills;** as the learner identify locally available materials to make a tactile atomic structure and periodic table	• **Respect** as learners appreciate each other's opinion during group discussions. • **Peace** as learners interact harmoniously during group discussion**.**

Link to other Subjects

- **Integrated science;** as the learner apply the skills of interpreting tactile atomic structure and periodic table in learning integrated science.

Creative Arts; as the learner make tactile atomic structure and a periodic table using locally available materials.

Suggested Non Formal Activity that Support Learning:	**Suggested modes of Assessment:**
Learners to prepare a tactile chart on representation of atomic mass and mass number for presentation during science Club.	• Oral questioning • Peer and self-assessment • Observation.

Suggested Learning Resources:

- Thread, wood glue, strings, seed, sand, cardboards, Braille materials and equipment.

Suggest Assessment Rubric

Criteria	**Exceeding Expectation**	**Meeting Expectation**	**Approaching Expectation**	**Below Expectations**
Identifying electron configuration in a	Identifies electron configuration in various tactile structures of	Identifies electron configuration in a tactile structure of an atom.	Makes significant effort to identify electron	Makes little effort to identify electron configuration in a tactile structure of an atom

tactile structure of an atom.	atoms and citing more examples.		configuration in a tactile structure of an atom.	
Writing Braille representations of electron configuration of various atoms.	Writes Braille representations of electron configuration of various atoms and classifies them into different periods.	Writes Braille representations of electron configuration of various atoms.	Makes significant effort to writes Braille representations of electron configuration of various atoms.	Makes little effort to writes Braille representations of electron configuration of various atoms.
Preparing a tactile structure of an atom showing electron arrangement.	Prepares several tactile structures of an atom showing electron arrangement.	Prepares a tactile structure of an atom showing electron arrangement.	Makes significant effort to prepare a tactile structure of an atom showing electron arrangement.	Makes little effort to prepare a tactile structure of an atom showing electron arrangement.
Identifying Braille representation of atomic number and mass number with the symbol of an element	Identifies Braille representation of atomic number and mass number with the symbol of an element citing more examples.	Identifies Braille representation of atomic number and mass number with the symbol of an element	Makes significant effort to identify Braille representation of atomic number and mass number with the symbol of an element	Makes little effort to identify Braille representation of atomic number and mass number with the symbol of an element
Tracing a tactile periodic table to identify different periods and groups of the first 20 elements.	Traces a tactile periodic table to identify different periods and groups of the first 20 elements and further identify a model of periodic table.	Traces a tactile periodic table to identify different periods and groups of the first 20 elements.	Makes significant effort to trace a tactile periodic table to identify different periods and groups of the first 20 elements.	Makes little effort to trace a tactile periodic table to identify different periods and groups of the first 20 elements.

PHYSICS

Strand	Sub Strand	Specific Learning Outcome	Suggested Learning Experiences	Key Inquiry Question
SCIENCE BRAILLE NOTATION	**7.2 derived units** (2 lessons)	By the end of the sub strand the learner should be able to; ● identify derived unit symbols in Braille, ● write derived unit symbols in Braille, ● develop curiosity in reading and writing derived unit symbols in Braille as used in learning.	● In groups learners be guided to identify derived unit symbols on a Braille work card, which includes; Energy (E) – J, kJ Charge (Q) = C, Moment (M) – Nm Springs constant (F)= N/m. ● In groups or pairs learners are guided to write derived unit symbols in Braille. ● Learners practice reading and writing derived unit symbols using digital devices with refreshable Braille or Braille writing materials.	Why do we learn how to write derived unit symbols in Braille?

Core Competencies to be Developed

- **Communication and collaboration**; as the learner interact effectively in groups when identifying derived unit symbols in Braille.
- **Digital literacy**; as the learner use digital devices with refreshable Braille to read and write derived unit symbols in Braille.

Pertinent and Contemporary Issues	Values
● **Social awareness skills;** As the learner interact effectively during group activities.	• **Responsibility;** as the learner take care of digital devices with refreshable Braille after using them. • **Respect;** as the learner appreciate each other's opinion while working in groups. • **Unity;** as the learner work in groups to accomplish the common task.

Link to other Subjects

Integrated science and mathematics; as the learner apply skills acquired for writing symbols for derived unit symbols in Braille to solve problems in integrated science and mathematics.

Suggested Non Formal Activity that Support Learning	**Suggested modes of Assessment**
Learners to make tactile charts of derived units and present to others during the Science congress forum.	● Peer and self-assessment ● Observation ● Oral questions ● Written assignment
Suggested Learning Resources: Digital devices with refreshable Braille display, Braille writing materials and equipment.	

Suggested Assessment Rubric

Criteria	**Exceeding Expectation**	**Meeting Expectation**	**Approaching Expectation**	**Below Expectations**
Identifying derived unit symbols in Braille.	Identifies derived unit symbols in Braille and further state the derived quantity.	Identifies all 4 derived unit symbols in Braille.	Identifies 2-3 derived unit symbols in Braille.	Identifies 1 derived unit symbols in Braille.
Writing symbols for derived units in Braille.	Writes derived unit symbols in Braille citing more examples.	Writes all 4 symbols for derived units in Braille.	Writes 2-3 derived units symbols in Braille.	Writes 1 derived units symbols in Braille.

Strand	**Sub Strand**	**Specific Learning Outcome**	**Suggested Learning Experiences**	**Key Inquiry Question**
	7.3 Formulas (2 lessons)	By the end of the sub strand the learner should be able to; ● identify formulas in Braille, ● write formulas in Braille, ● enjoy reading and writing physics	● In groups learners be guided to identify formulas in Braille on a Braille work cards card, which includes; Magnification = v/u Images in a mirror (n)=$360^0/\Theta$ -1 Rate of flow of Charges (Q)= It Momentum (M) = Fd Spring constant (F)= ke	Why do we learn how to write formulas in Braille?

		Braille formulas in learning.	● In pairs learners are guided to write formulas using Braille reading and writing materials. **Project:** In pairs, learners make tactile triangle charts entailing formulas in Braille from locally available resources such as wood glue, threads, soft wires, Braille reading and writing materials.	

Core Competencies to be developed

- **Communication and collaboration**; as the learner work in groups to prepare tactile triangle charts entailing formulas in Braille.
- **Critical thinking and problem solving**; as the learner use Braille Physics formulas to solve Physics problems.
- **Learning to learn;** as the learner apply the Braille Physics formula in learning of integrated science.

Link to Pertinent and Contemporary Issues	**Values**
● **Mentorship and Peer education**; as the learner as learners support each other while working in groups to prepare tactile triangle charts entailing Braille formulas. ● **Analytical thinking skills**; as the learner use Braille formulas in solving problems.	● **Unity**; as the learner prepare tactile triangle charts entailing formulas in Braille. ● **Responsibility** as the learner take care of the Braille materials and equipment

Link to Other Subjects

Integrated science and mathematics as the learners apply skills acquired for writing formulas in Braille in the learning of integrated science and mathematics.

Suggested Non Formal Activity that Support Learning	**Suggested Assessment Modes**
Learners come up with a model of a triangle showing formulas in Braille and present them in science congress.	● Peer and self-assessment, ● Observation, ● Oral questioning ● Written assignment/assignment

Suggested Learning Resources:

- Braille writing materials and equipment
- Thread, wood glue, soft wires, soft board.

Suggested Assessment Rubric

Criteria	Exceeding Expectation	Meeting Expectation	Approaching Expectation	Below Expectations
Identifying formulas in Braille.	Identifies physics formulas in Braille and further state the quantities in the formulas.	Identifies all 5 formulas in Braille.	Identifies 2-5 formulas in Braille.	Identifies less than 2 formulas in Braille.
Writing formulas in Braille.	Writes formulas in Braille and further make each quantity the subject of the formula.	Writes all 5 formulas in Braille.	Writes 2-5 formulas in Braille.	Writes less than 2 formulas in Braille.

Strand	Sub Strand	Specific Learning Outcome	Suggested Learning Experiences	Key Inquiry Question
SCIENCE BRAILLE NOTATION	**7.4 Tactile representations of circuit symbols** (3 lessons)	By the end of the sub strand the learner should be able to; a) identify tactile representation of circuit symbols, b) make tactile representation of circuit symbols, c) develop curiosity in manipulating tactile circuit symbols.	● In pairs, learners are guided to manipulate tactile representation of circuit symbols on Braille work cards which includes: cell, battery, bulb, switch, crossing wire with and with no connections, voltmeter and ammeter. ● In groups learners are guided to identify tactile representation of circuit symbols on Braille work cards. ● In groups learners make tactile representation of circuit symbols from locally available materials such as wood glue, thread, soft wires, Braille reading and writing materials.	Why do we learn about tactile representation of circuit symbols?

			• learners practice to identify and make tactile representations of circuit symbols used for learning.	

Core Competencies to be developed

- **Creativity and innovation;** as the learner prepare tactile representation of circuit symbols using locally available resources.
- **Communication and collaboration;** as the learner interact effectively while working in groups.

Pertinent and Contemporary Issues	**Values**
• **Mentorship and Peer education;** as the learner support each other while working in groups to prepare tactile representation of circuit symbols on Braille work cards. • **Environmental issues in education:** as the learner use locally available materials to prepare tactile representations of circuit symbols.	• **Unity;** as the learner work in groups harmoniously to accomplish a common task. • **Responsibility;** as the learner take care of Braille work cards.

Link to other Subjects:

Integrated science as a learner applies the skills acquired in tactile circuit symbols in learning of integrated science.

Suggested Non Formal Activity that Support Learning:	**Suggested Assessment Modes**
Learners make tactile charts on representation of circuit symbols and present them to their peers during science club.	• Peer and self-assessment • Observation • Oral questioning

Suggested Learning Resources:

- Thread, wood glue, soft wires, soft board, Braille machines and Braille papers.

Suggested Assessment Rubric

Criteria	Exceeding Expectation	Meeting Expectation	Approaching Expectation	Below Expectations
Identifying tactile representation of circuit symbols	Identify tactile representation of circuit symbols and cite more examples.	Identify tactile representation of circuit symbols	Makes significant effort to identify tactile representation of circuit symbols.	Makes little effort to identify tactile representation circuit symbols.
Making several tactile representations of circuit symbols.	Make several tactile representation of circuit symbols	Make tactile representation of a circuit symbol	Makes significant effort to make tactile representation circuit symbols.	Makes little effort to make tactile representation circuit symbols.

8.0 MUSIC BRAILLE NOTATION

Strand	Sub strand	Specific learning outcomes	Suggested learning experiences	Key inquiry question
8.0 MUSIC BRAILLE NOTATION	**8.1 Performance direction---dynamics** (2 lessons)	By the end of the sub strand, the learner should be able to; a) identify performance direction signs for dynamics in music Braille, b) read performance direction signs for dynamics in music Braille, c) write performance direction signs for dynamics in music Braille, d) enjoy reading and writing performance direction signs for dynamics in music Braille.	• Learners are guided to identify performance direction signs for dynamics in music Braille. (piano, pianismo, forte, fortismo, mezopiano, mezoforte, crescendo,diminuendo). • In groups learners read performance direction signs for dynamics in music Braille. • In pairs guide learners to write performance direction signs for dynamics in Braille. • In groups learners could practice reading and writing performance direction signs for dynamics in Braille.	How do you write performance direction signs for dynamics in music Braille?

Core Competencies To Be Developed

- **Communication and collaboration;** as the learner work in groups and in pairs to practice reading and writing performance direction signs for dynamics in music Braille.
- **Self-efficacy**; as the learner acquire self-confidence and self-esteem as they practice writing and reading performance direction signs for dynamics in music Braille.

Pertinent and Contemporary Issues	Values
• **self-management skills**	• **Unity;** as the learner work together in groups. • **Respect**; as the learner appreciate each other's ideas as they carry out learning tasks in groups and in pairs.

- **Self-esteem**- as the learner gain confidence practicing writing and reading performance direction signs for dynamics in music Braille.	
Link To other Learning Areas **Performing arts**; as the learner apply knowledge of performance direction signs for dynamics in music Braille to learn performance directions for dynamics in performing arts.	
Suggested Non-Formal Activity that Support Learning Learners could write performance direction signs for dynamics at their own time then share with other learners in the Braille and music club.	**Suggested Assessmen**t • oral questioning • written assignment/assessment • peer assessment • portfolio
Suggested Learning Resources: • Braille papers • Braille machines • music Braille books • Braille cards with performance direction signs for dynamics in music Braille.	

Suggested Assessment Rubrics

Criteria	Exceeding Expectations	Meeting Expectations	Approaching Expectation	Below Expectations
Identifying dots forming performance direction signs for dynamics in music Braille.	Identifies and name dots forming performance direction signs for dynamics in music Braille. and even state their use.	Identifies dots forming performance direction signs for dynamics in music Braille.	Makes significant effort to identify progressive efforts to identify dots forming performance direction signs for dynamics in music Braille.	Makes little effort to identify progressive efforts to identify dots forming performance direction signs for dynamics in music Braille.
Reading performance direction signs for	Reads performance direction signs for	Reads performance direction signs for dynamics in Braille.	Makes significant effort to read performance direction signs for dynamics in Braille.	Makes little effort to read performance direction signs for dynamics in Braille.

dynamics in Braille.	dynamics in Braille with fluency.			
Writing performance direction signs for dynamics in Braille.	Writes and interpret performance direction signs for dynamics in Braille.	Writes performance direction signs for dynamics in Braille.	Makes significant efforts to write performance direction signs for dynamics in Braille.	Makes little efforts to write performance direction signs for dynamics in Braille.

Strand	**Sub strand**	**Specific learning outcomes**	**Suggested learning experiences**	Key inquiry question
8.0 **MUSIC BRAILLE NOTATION**	**8.2** **Harmonic And Melodic Intervals** (2 lessons)	By the end of the sub strand the learner should be able to; a) identify features and signs of harmonic and melodic intervals in Braille, b) read harmonic and melodic intervals in Braille, c) write harmonic and melodic intervals in Braille, d) enjoy reading and writing harmonic and melodic intervals in Braille.	● In pairs learners be guided to identify features and signs of harmonic and melodic intervals in Braille by naming the signs that represent them. They include second to eighth intervals both harmonic and melodic. ● In groups learners are guided to read harmonic and melodic intervals in Braille. ● In pairs learners are guided to write harmonic and melodic intervals in Braille. ● In groups learners could practice reading and writing harmonic and melodic intervals in Braille.	1. How do you write harmonic and melodic intervals in Braille? 2. Why is it important to learn harmonic and melodic intervals?

Competencies To Be Developed

- **Communication and collaboration**; as the learner work together in groups and in pairs reading and writing harmonic and melodic intervals in Braille.
- **Self-efficacy**; as the learner shows self-confidence and self-esteem while practicing writing and reading harmonic and melodic intervals in Braille.

Pertinent and Contemporary Issues	**Values**
	● **Social justice;** as the learner support each other in groups while learning harmonic and melodic intervals in Braille. ensure fairness in distribution

● **mentorship and peer education;** as the learner support each other in groups while learning harmonic and melodic intervals in Braille. ● **Clubs and societies**; as the learner support each other in groups while learning harmonic and melodic intervals in Braille. practice writing and reading harmonic and melodic intervals with their peers in music clubs.	of learning materials amongst themselves as well as giving equal opportunities to each of them as they carry out learning tasks in groups and in pairs. ● **Respect;** as the learner appreciate each other's views in groups and in pairs.
Link To other Subjects ● **Performing arts;** as the learner apply learned skills and knowledge to learn how to read and write harmonic and melodic intervals in performing arts. .	
Suggested Non-Formal Activity that Support Learning ● Learners could organize a music Braille game activity where they could practice writing and reading harmonic and melodic intervals written using different note values.	**Suggested Assessment** ● Observation ● Oral questioning ● Peer assessments ● Self-assessments ● Written questions
Suggested Learning Resources ● Braille papers ● Braille machines ● Braille card with melodic and harmonic intervals	

Suggested Assessment Rubric

Criteria	Exceeding Expectations	Meeting Expectations	Approaching Expectation	Below Expectations
Identifying features and signs of most of the harmonic and melodic intervals in Braille.	Identifies and name features and signs of harmonic and melodic intervals in Braille.	Identifies features and signs of harmonic and melodic intervals in Braille.	Identifies features and signs of most of the harmonic and melodic intervals in Braille.	Identifies features and signs of few harmonic and melodic intervals in Braille.
Reading harmonic and melodic intervals in Braille.	Reads harmonic and melodic intervals in Braille with fluency.	Reads harmonic and melodic intervals in Braille.	Reads most of the harmonic and melodic intervals in Braille.	Reads few harmonic and melodic intervals in Braille.

Writing harmonic and melodic intervals in Braille.	Writes and interpret harmonic and melodic intervals in Braille.	Writes harmonic and melodic intervals in Braille.	Writes most of the harmonic and melodic intervals in Braille	Writes few harmonic and melodic intervals in Braille.

Strand	**Sub strand**	**Specific learning outcomes**	**Suggested learning experiences**	**Key inquiry question**
8.0 MUSIC BRAILLE NOTATION	**8.3 Performance Direction Related To Tempo And Other Signs.** (2 lessons)	By the end of the sub strand, the learner should be able to; a) identify performance direction signs related to tempo and other signs in Braille, b) read performance direction signs related to tempo and other signs in Braille, c) write performance direction signs related to tempo and other signs in Braille, d) appreciate reading and writing performance directions signs related to tempo and other signs in Braille.	● Learners are guided to identify Braille performance direction signs related to tempo and other signs on Braille card. They include-rallentando, ritadando, andante, allegro, a tempo, largo, adagio, lento signs. Other signs include pause sign, stacato sign, accent sign, first repeat and end repeat sign, prevolta, prima volta, seconda volta, tie, phrase marks, dalsigno, al-fine, dacapo, singo signs. ● In groups learners be guided to read Braille performance direction signs related to tempo. ● In pairs learners are guided to write Braille performance direction signs related to tempo. ● In groups learners practice reading and writing Braille performance direction signs related to tempo as they support each other to enhance mentorship and peer education, value of love and respect.	How do you write Braille performance direction signs related to tempo and other signs?

Core Competencies to Be Developed

- **Self efficacy**; as the learner practice reading and writing Braille performance direction signs related to tempo there by developing confidence and self esteem.
- **Communication and Collaboration**; as the learner work in groups and in pairs reading and writing performance direction signs related to tempo and other signs in Braille.

Pertinent and Contemporary Issues:

- **Mentorship and peer education;** as the learner support each other as they learn in groups and in pairs.

Values

- **Love**; as the learner support each other in groups while reading and writing Braille performance direction signs related to tempo and other signs.
- **Respect**; as the learner appreciate each other's views while working in groups and in pairs.

Link to other Subjects:

- **Performing arts**; as the learner apply the skills and knowledge learnt in Braille to learn performance direction signs related to tempo and other signs in performing arts.

Suggested Non Formal Activity that Support Learning:

- Learners could perform songs with Braille performance direction signs related to tempo and other signs as a choir in the music club.

Suggested Assessment Modes

- Oral assessment
- Observation
- self-assessment
- Peer assessment.

Suggested Learning Resources:

- Braille papers
- Braille machines
- refreshable Braille displays

Suggested Assessment Rubrics

Criteria	Exceeding Expectation	Meeting Expectation	Approaching Expectation	Below Expectations
Identifying Braille performance direction signs related to tempo	Identifies Braille performance direction signs related to tempo	Identifies Braille performance direction signs related to tempo	Makes significant effort to identify Braille performance direction	Makes little effort to identify Braille performance direction

and other signs in Braille.	and other signs in Braille and even state their names in full.	and other signs in Braille.	signs related to tempo and other signs in Braille.	signs related to tempo and other signs in Braille.
Reading Braille performance direction related signs to tempo in Braille.	Reads Braille performance direction signs related to tempo and other signs And goes further to explain the meaning of some of them.	Reads Braille performance direction related signs to tempo and other signs in Braille.	Makes significant effort to read Braille performance direction signs related to tempo in Braille.	Makes little effort to read Braille performance direction signs related to tempo and other signs in Braille.
Writing performance direction signs related to tempo and other signs in Braille.	Writes and interpret performance direction signs related to tempo and other signs in Braille.	Writes performance direction signs related to tempo and other signs in Braille.	Makes progressive effort in write performance direction signs related to tempo and other signs in Braille.	Makes little effort in write performance direction signs related to tempo and other signs in Braille.

Strand	**Sub strand**	**Specific learning outcome**	**Suggested learning experiences**	**Key inquiry question**
MUSIC BRAILLE NOTATION	**8.4 Writing And Aligning Melodies In Braille Using Major Keys. 2 lessons**	By the end of the sub stand, the learner should be able to; a) identify features and alignment of melodies in Braille, b) read melodies in different alignments in Braille, c) write melodies in different alignments in Braille,	Learners are guided to: ● Identify features and alignments of melodies in Braille, they include; clef signs, position of key signatures, time signatures, octave signs on notes, bars, bar lines, double bar lines, opening and closing phrase marks. ● In groups learners are guided to read melodies in different alignments in Braille.	1. Why do you identify features and alignments of melodies in Braille? 2. How do you read and write melodies in different alignments in Braille.

		d) enjoy writing and reading melodies in different alignments in Braille.	● In pairs, learners are guided to write melodies in different alignments in Braille. ● In groups learners practice reading and writing melodies in different alignment in Braille.	

Core Competencies to be Developed

- **Communication and Collaboration**-This is developed as learners work in groups reading and writing melodies in different alignments.
- **Learning to Learn**-This is developed as learners apply knowledge and skills learned to compose their own melodies
- **Self -efficacy**—This is developed as learners gain self confidence and self esteem as they practice writing and reading melodies in Braille.

Pertinent and Contemporary Issues	**Values**
● **Analytical thinking skills**; as the learner apply critical thinking skills while identifying features of melodies as well as reading and writing the melodies using such features in Braille. ● **clubs and societies;** as the learner create their own melodies with their peers in the music club.	● **Unity**; as the learner work together in groups and in pairs. ● **Responsibility;** as the learner take care of the materials provided in their groups.

Link to other Subjects

Performing arts-- as the learner apply knowledge and skills learnt in melody writing in Braille using major keys to learn composing and creating melodies in performing arts as a learning area.

Suggested Non Formal Activity that Support Learning:	**Suggested Assessment Modes**
Learners could write and create melodies in Braille then practice reading them together with their peers in music and Braille club.	● Oral questioning ● self-assessment ● peer assessment ● Written assignment/assessment ● observation

Suggested Learning Resources

- Braille papers
- Braille machines

- music Braille books.
- Braille cards.

Suggested Assessment Rubric

Criteria	**Exceeding Expectation**	**Meeting Expectation**	**Approaching Expectation**	**Below Expectation**
Identifying features and alignments of melodies in Braille.	Identifies features and alignments of melodies in Braille and even explain the features.	Identifies features and alignments of melodies in Braille.	Makes significant effort to identify features and alignments of melodies in Braille.	Makes little effort to identify features and alignments of melodies in Braille.
Reading melodies using different alignments in Braille.	Reads and interpret melodies using different alignments in Baille.	Reads melodies using different alignments in Braille.	Makes significant effort to read melodies using different alignment in Braille.	Makes little effort to read melodies using different alignment in Braille.
Writing melodies in different alignments.	Writes melodies in different alignments and even create his or her own in Braille.	Writes melodies in different alignments.	Makes significant effort to write melodies in different alignments.	Makes little effort to write melodies in different alignments.

9.0 FRENCH BRAILLE

Strand	Sub Strand	Specific Learning Outcome	Suggested Learning Experiences	Key Inquiry Question
9.0 FRENCH BRAILLE	**9.1 Contracted Braille: Word Signs** (2 lessons)	By the end of the sub- strand, the learner should be able to; a) identify word signs in French Braille, b) read word signs in French Braille, c) write word signs in French Braille, d) show interest in the use of word signs in French Braille.	• Learners are guided to identify word signs in French Braille. • In pairs, learners read word signs in French Braille. • Learners could be guided to write word signs in French Braille. • In groups learners could be guided to practice reading and writing sentences with word signs in French Braille, using digital assistive devices with Braille display.	Why is the use of words signs in French necessary?

Core Competencies to be Developed

- **Communication and Collaboration**; as the learner work together in groups while reading and writing words signs in French Braille.
- **Digital literacy**; as the learner read and write French Braille texts using digital devices with Braille display.

Pertinent and Contemporary Issues:	Values
Life skills - this could be realized as learners use the acquired skills to read and write French texts in their day to day lives.	• **Responsibility**; as the learner care for the digital devices with assistive technology while doing tasks in class. • **Unity;** as the learner work together in harmony while reading and writing word signs in French Braille

Link to other Subjects:

- **French:** As the learner apply the skills leant on word signs in reading and writing French work.

Suggested Non-Formal Activity that Support Learning:	Suggested Assessment:
Learners could visit the school library and practice reading word signs in French Braille books	• peer assessment • oral questioning

	● observation.
Suggested Learning Resources Braille paper, Braille machine, Braille work cards, digital devices with assistive technology.	

Suggested Assessment Rubrics

Criteria	**Exceeding Expectation**	**Meeting Expectation**	**Approaching Expectation**	**Below Expectations**
Identifying word signs in French Braille	Identifies and pronounce the word signs in French Braille	Identifies word signs in French Braille	Makes significant effort to identify most of the word signs in French Braille.	Makes little effort to identify most of the word signs in French Braille.
Reading word signs in French Braille.	Reads word signs in French Braille with fluency.	Read word signs in French Braille.	Makes significant effort to read word signs in French Braille.	Makes little effort to read word signs in French Braille.
Writing word signs in French Braille.	Writes word sign in French Braille and even make sentences with them.	Writes word signs in French Braille.	Makes significant effort to write word sign in French Braille.	Makes little effort to write word sign in French Braille.

Strand	**Sub Strand**	**Specific Learning Outcome**	**Suggested Learning Experiences**	**Key Inquiry Question**
9.0 FRENCH BRAILLE	**9.2 Numbers 2 Lessons**	By the end of the sub-strand the learner should be able to; a) identify numbers with mathematical comma in French Braille, b) read text involving numbers with mathematical comma in French Braille, c) write text involving numbers with mathematical comma in French Braille,	● Learners could be guided to identify numbers with mathematical comma in French Braille. ● In pairs learners could read text involving numbers with mathematical comma in French Braille. ● Learners could be guided to write text involving numbers with mathematical comma in French Braille.	How is the literacy comma different from the mathematical comma?

		d) appreciate the use of numbers with mathematical comma in French Braille.	• In groups learner practice reading and writing numbers with mathematical comma in French Braille.	

Core Competencies to Be Developed

- **Learning to learn;** as the learner come up with more numbers with mathematical comma.
- **Self-efficacy;** as the learner gain confidence through practicing reading and writing numbers in French Braille.

Pertinent and Contemporary Issues	**Values:**
Self -management skills; as the learner gain mastery in reading and writing numbers with mathematical comma in French Braille.	**Respect**: as the learner accommodate each other's views while reading and writing numbers with mathematical comma.

Link to other Subjects:

French; as the learner use the acquired skills to read and write their Braille work in French.

Mathematics; as the learner use their acquired skills to perform mathematical tasks

Suggested Non-Formal Activity that Support Learning:	**Suggested Assessment Modes**
Learners could write could write simple arithmetic expressions using mathematical comma during French club sessions.	• self-assessment, written question, peer assessment.

Suggested Learning Resources:

- Braille machines, slate and stylus, Braille paper and French Braille books.

Suggested Assessment Rubric

Criteria	**Exceeding Expectation**	**Meeting Expectation**	**Approaching Expectation**	**Below Expectations**
Identifying numbers with mathematical comma in French Braille	Identifies numbers with mathematical comma in French Braille with speed and ease	Identifies numbers with mathematical comma in French Braille	Makes significant effort to identify most of the numbers with mathematical comma in French Braille.	Makes little effort to identify most of the numbers with mathematical comma in French Braille.
Reading text involving numbers with mathematical comma in French Braille.	Reads text involving numbers with mathematical comma in French Braille with fluency.	Reads text involving numbers with mathematical comma in French Braille.	Makes significant effort to read texts involving numbers with mathematical comma in French Braille.	Makes little effort to read texts involving numbers with mathematical comma in French Braille.

Writing text involving numbers with mathematical comma and fractions in French Braille	Writes text involving numbers with mathematical comma and fractions in French Braille with ease and speed.	Writes text involving numbers with mathematical comma and fractions in French Braille	Makes significant effort to write text involving numbers with mathematical comma in French Braille	Makes little effort to write text involving numbers with mathematical comma in French Braille

Strand	**Sub Strand**	**Specific Learning Outcome**	**Suggested Learning Experiences**	**Key Inquiry Question**
9.0 FRENCH BRAILLE	**9.3 Punctuations and Indicators** (2 lessons)	By the end of the sub-strand the learner should be able to; a) identify punctuation signs and indicators in a French Braille text, b) read texts with punctuation signs and indicators in French Braille, c) write texts with punctuations signs and indicators in French Braille, d) appreciate the use of punctuation signs and indicators in French Braille.	• Learners could be guided to locate punctuation signs and indicators in French Braille texts (speech marks, parentheses colon, semi colon) • In pairs, learners could read out French texts with punctuation signs and indicators in French Braille. • Learners could be guided to write texts with punctuations signs and indicators in French Braille. • In groups learners could practice reading and writing texts with punctuation marks and indicators in French Braille.	Why do we use punctuation marks and indicators when writing Braille work in French?

Core Competencies to be Developed

- **Learning to learn;** as the learner use the learnt skills to further inform themselves of more punctuation marks and indicators from French books.
- **Communication and collaboration**; as the learner work together in groups to read and write texts with punctuation marks and indicators in French Braille.

Pertinent and Contemporary Issues	**Values**
• **Life skills;** as the learner use the Braille skills to write poems, songs and chorals for contests and entertainment.	• **love**; as the learner help each other to read and write texts with punctuation marks.

• **social cohesion;** as learners of diverse backgrounds work together in reading and writing texts with punctuation marks in French Braille.	• **Respect-** as the learner accommodate each other's opinion during discussions.
Link to other Subjects • **French;** as the learner apply the acquired skills in their French work.	
Suggested Non-Formal Activity that Support Learning Learners could look for excerpts from French books and write different punctuation marks for practice.	**Suggested Assessment Modes** observation, written assignments/assessment, presentations portfolios.
Suggested Learning Resources • Braille paper, Braille machine, Braille cards charts and French books.	

Suggested Assessment Rubric

Criteria	Exceeding Expectation	Meeting Expectation	Approaching Expectation	Below Expectations
Identifying punctuation signs and indicators in a French Braille text.	Identifies punctuation signs and indicators in a French Braille text and even go father to name more punctuation marks.	Identifies punctuation signs and indicators in a French Braille text.	Makes significant effort to identify punctuation signs and indicators in a French Braille text.	Makes little effort to identify punctuation signs and indicators in a French Braille text.
Reading out French Braille texts with punctuation signs and indicators	Reads out french texts with punctuation signs and indicators with fluency.	Reads out French Braille texts with punctuation signs and indicators.	Makes significant effort to read French Braille texts with punctuation signs and indicators.	Makes little effort to read French Braille texts with punctuation signs and indicators.
Reading out french texts with punctuation signs and indicators.	Writes french texts with punctuation signs and indicators and observe pauses appropriately.	Reads out french texts with punctuation signs and indicators.	Makes significant effort to write French texts with punctuation signs and indicators.	Makes little effort to write French texts with punctuation signs and indicators.

10.0 GERMAN BRAILLE

Strand	Sub Strand	Specific Learning Outcome	Suggested Learning Experiences	Key Inquiry Question
10.0 GERMAN BRAILLE	**10.1 Vowel Contractions in German Braille** 2 lessons	By the end of the sub- strand, the learner should be able to; a) identify vowel contractions in German Braille, b) read texts with vowel contractions in German Braille, c) write words with vowel contractions in German Braille, d) show interest in the use of vowel contractions in German Braille.	• Learners be guided to identify vowel contraction in German Braille that is au-dot 1,6 au-dot 3,4 ei-dot 1,4,6 eu-dot1,2,6, ie-dot 3,4,6. • Learners be guided to read texts with vowel contractions in German Braille. • Learners be guided to write vowel contractions in German Braille. • In groups learners could be guided to practice reading and writing sentences vowel contractions in German Braille using digital assistive devices with refreshable Braille display	Why is the use of vowel contractions in German Braille necessary?

Core Competencies to be Developed

- **Digital literacy**; as the learner use digital devices with refreshable Braille display to read and write German texts with contractions in Braille.
- **Self- efficacy**; as the learner use digital devices gain confidence as they read and write German words with contractions in Braille.

Pertinent and Contemporary Issues:	Values
• **Clubs and societies**; as the learner use the acquired kills to read and write songs, poems, articles and other entertainment items for the German club.	• **love**; as the learner use digital devices assist each other in reading and writing contractions in German Braille. • **Unity**; as the learner use digital devices work together harmoniously in pairs and in groups

Link To other Subjects:
German: As the learner apply learned skills in reading and writing German work.

Suggested Non-Formal Activity that Support Learning: Learners could extract excerpts from German story books and write them in Braille using German vowel contraction.	**Suggested Assessment Modes** • peer assessment, written assessment/ assignments and observation.
Suggested Learning Resources • Braille paper, Braille machine, Braille cards excerpts from German books and digital assistive devices with refreshable display like Orbit reader and Braille Me.	

Suggested Assessment Rubric

Criteria	**Exceeding Expectation**	**Meeting Expectation**	**Approaching Expectation**	**Below Expectations**
Identifying vowel contractions in German Braille	Identifies vowel contractions in German Braille and even explain their formation.	Identifies vowel contractions in German Braille	Makes significant effort to identify most of the vowel contractions in German Braille.	Makes little effort to identify most of the vowel contractions in German Braille.
Reading text with vowel contraction in German Braille.	Reads text with vowel contractions in German Braille with fluency.	Reads text with vowel contraction in German Braille.	Makes significant effort to read text with vowel contraction in German Braille.	Makes little effort to read text with vowel contraction in German Braille.
Writing vowel contractions in German Braille.	Writes vowel contractions in German Braille with ease and speed.	Writes vowel contractions in German Braille.	Makes significant effort to write vowel contractions in German Braille.	Makes minimal effort to write vowel contractions in German Braille.

Strand	Sub Strand	Specific Learning Outcome	Suggested Learning Experiences	Key Inquiry Question
10.0 GERMAN BRAILLE	**10.2 Numbers 2 lessons**	By the end of the sub-strand the learner should be able to; a) Identify numbers with mathematical comma in German b) Read text involving numbers with mathematical comma in German Braille. c) Write text involving numbers with mathematical comma in German Braille. d) appreciate the use of numbers with mathematical comma in German Braille.	• Learners be guided to identify numbers with mathematical comma in German Braille. • Learners be guided to read text involving numbers with mathematical comma in German Braille on Braille cards. • Learners be guided to write text involving numbers with mathematical comma in German Braille. • In groups learner practice reading and writing numbers with mathematical comma in German Braille	How is the mathematical comma used in german Braille?

Core Competencies to Be Developed
Learning to learn; as the learner come up with more numbers with mathematical comma and fraction.
Self-efficacy; as the learner gain confidence in reading and writing numbers in German Braille.

Pertinent and Contemporary Issues	Values:
Social cohesion; ; as the learner work together in reading and writing numbers in German Braille.	• **Respect;** as the learner accommodate each other's views while reading and writing numbers. • **Peace;** as the learner work together with others harmoniously in reading and writing number in German Braille.

Link to other Subjects:
German; as the learner use the acquired skills to read and write their Braille work in German.

Suggested Non-Formal Activity that Support Learning	Suggested Assessment modes
Learners could visit library and practice reading and writing numbers with mathematical comma from mathematics books.	• self-assessment, oral questioning, peer assessment and observation.

Suggested Learning Resources
Braille machines, Braille paper and German Braille books.

Suggested Assessment Rubric

Criteria	Exceeding Expectation	Meeting Expectation	Approaching Expectation	Below Expectations
Identifying numbers with mathematical comma in German Braille	Identifies numbers with mathematical comma in German Braille, and apply it appropriately	Identifies numbers with mathematical comma in German Braille	Makes significant effort to identify numbers with mathematical comma in German Braille.	Makes little effort to identify numbers with mathematical comma in German Braille.
Reading text involving numbers with mathematical comma in German Braille.	Reads text involving numbers with mathematical comma in German Braille, and use them in a sentence.	Reads text involving numbers with mathematical comma in German Braille.	Makes significant effort to read text involving numbers with mathematical comma in German Braille.	Makes little effort to read text involving numbers with mathematical comma in German Braille.
Writing text involving numbers with mathematical comma in German Braille	Writes text involving numbers with mathematical comma in German Braille, and include them in a german Braille text.	Writes text involving numbers with mathematical comma in German Braille	Makes significant effort to write text involving a few numbers with mathematical comma in German Braille	Makes little effort to write text involving a few numbers with mathematical comma in German Braille

Strand	Sub Strand	Specific Learning Outcome	Suggested Learning Experiences	Key Inquiry Question
10.0 GERMAN BRAILLE	**10.3 Punctuations And Indicators** (2 lessons)	By the end of the sub-strand the learner should be able to; a) identify punctuation signs and indicators in a German Braille text, b) read a text with punctuation signs and indicators in German Braille, c) write punctuations signs and indicators in German Braille text,	● Learners could be guided to locate punctuation signs and indicators in German Braille texts (speech marks, parentheses colon, semi colon). ● Learners could be guided to read out German texts with punctuation signs and indicators in Braille. ● Learners could be guided to write texts with punctuations signs and indicators in German Braille.	Why do we use punctuation marks and indicators when writing Braille work?

		d) appreciate the use of punctuation signs and indicators in German Braille.	• Learners could be guided to read out German texts with punctuation signs and indicators in Braille. • In groups learners could practice reading and writing texts with punctuation mark and indicators in german Braille.	

Competencies to be Developed

- **Learning to learn;** as the learner use the learned skills to further inform themselves of more punctuation marks and indicators from German books.
- **Communication and Collaboration**; as the learner work together in groups to read and write texts with punctuation marks and indicators in German Braille.

Pertinent and Contemporary Issues:	**Values**
• **Life skills;** as the learner use the Braille skills to write poems, songs and chorals for contests and entertainment. • **social cohesion;** as the learner works with others from diverse backgrounds work together in reading and writing texts with punctuation marks in German Braille.	• **Love**; as the learner help each other to read and write texts with punctuation marks.

Link to other Subjects

German; as the learner apply the acquired skills in their German assignments.

Suggested Non-Formal Activity that Support Learning:	**Suggested Assessment Modes**
Learners could look for excerpts from German books and write different punctuation marks for practice.	• Observation, written assessments/ assignments, presentations portfolios.

Suggested Learning Resources:

Braille paper, Braille machine, charts and German books.

Suggested Assessment Rubric

Criteria	Exceeding Expectation	Meeting Expectation	Approaching Expectation	Below Expectations
Identifying punctuation signs and indicators in a German Braille text.	Identifies punctuation signs and indicators in a German Braille text and even go father to name more punctuation marks.	Identifies punctuation signs and indicators in a German Braille text.	Makes significant effort to identify punctuation signs and indicators in a German Braille text.	Makes little effort to identify punctuation signs and indicators in a German Braille text.
Reading out punctuation signs and indicators in German Braille text	Read out punctuation signs and indicators in German Braille text with fluency	Read out punctuation signs and indicators in German Braille text	Makes significant effort to Read out punctuation signs and indicators in German Braille text.	Makes little effort to Read out punctuation signs and indicators in German Braille text.
Writing punctuations signs and indicators in German Braille text.	Write punctuations signs and indicators in German Braille text with ease and speed.	Write punctuations signs and indicators in German Braille text.	Makes significant effort to write punctuation marks and indicators in German Braille.	Makes little effort to write punctuation marks and indicators in German Braille.

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. The CSL project 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 with visual impairment in Grade 8 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 1-2 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.

COMMUNITY SERVICE-LEARNING PROJECT

INTRODUCTION

Community Service Learning in Grade 8 builds on the experiences in Grade 7. Learners with visual impairment will be expected to carry out only one CSL project in Grade 8. The preparations for the CSL project will entail the following steps: identifying a community problem through research, planning and coming up with solutions to solve the identified problem. The preparations will be carried out in groups. Learners will build on CSL knowledge, skills, attitudes and values acquired during Life Skills Education as well as other subjects.

Community Service Learning Skills to be covered:

i) **Leadership**: Learners develop leadership skills as they undertake various roles during preparation.
ii) **Financial Literacy and Entrepreneurship Skills:** Learners will gain skills on wise spending, saving and investing for sustained economic growth. They could consider ways of generating income as they undertake the CSL project through innovative ways. Moreover, they could identify business ideas and opportunities as well as resources to meet the needs of the community.
iii) **Research:** Learners will be expected to identify a problem or pertinent issue in the community and indicate how the problem will be solved. They will also acquire skills on how to report their findings.
iv) **Communication:** Learners indicate reporting mechanisms to be used during the actual project for example how they intend to communicate with members of the community, either online or offline.

v) **Citizenship:** As learners engage in the CSL activities for this Grade, they will be vested with the rights, privileges, responsibilities and duties of a citizen, hence giving them a sense of belonging and attachment to the nation. They will also be empowered to engage and assume active roles in shaping a more peaceful, tolerant and inclusive society.

vi) **Life Skills Education:** Learners will be equipped with life skills including decision-making, assertiveness, effective communication, and problem solving and stress management. This will enable them to manage interpersonal relationships, develop leadership skills as well as discover and grow their talents.

vii) **Community Development:** Learners will be empowered with skills necessary to effect relevant change including building stronger and more resilient communities.

Suggested PCIs	**Specific Learning Outcomes**	**Suggested Learning Experiences (Customise to the focus of the grade)**	**Key Inquiry Questions**
Learners will be guided to consider the various PCIs provided in the subject 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;	• 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 to be guided in selecting materials that are safe and accessible such as tactile charts, pictures, graphs and braille. Those with low vision use 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 with visual impairments to be supported in preparation and	1. How does one determine community needs? 2. Why is it necessary to be part of a community?

	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.	use of data collection methods and tools such as questionnaires, focus discussions and interviews. • In groups, learners develop appropriate tools for collecting data with the guidance of the teacher. • I*n groups, learners collect data and record findings. Learners with blindness to work with sighted peers when collecting data. The sighted peers would support in explaining or describing aspects that require use of sight.* • *Learners with blindness use audio recorders to record the responses*. • 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 school and the community to be addressed.	Identifies with relevant examples a pertinent issue in the school community to be addressed.	Identifies a pertinent issue in the school community to be addressed.	Makes significant effort in identifying a pertinent issue in the school community to be addressed.	Makes little effort in identifying a pertinent issue discussed in class.
Planning to solve the identified issue.	Plans a step-by-step plan of the activities to be carried out in the process of solving the problem.	Plans to solve the identified problem.	Makes significant effort in planning an outline of a plan to solve the identified problem.	Makes little effort planning some activities to be included in the plan to solve the identified problem.
Designing and implementing solutions to the identified problem.	Designs and implements and solves the identified problem.	Designs solutions to the identified problem.	Makes significant effort in designing solutions to the identified problem.	Makes little effort in designing solutions to the identified problem.
Sharing findings to relevant actors.	Shares findings in details to relevant actors.	Shares findings to relevant actors.	Makes significant effort in sharing a brief description of findings to relevant actors.	Makes little effort in sharing some aspects of the findings to relevant actors.