CURRICULUM DESIGNS

FOR LEARNERS WITH VISUAL IMPAIRMENT

GRADE 4

VOLUME ONE:

- MATHEMATICS
- SCIENCE TECHNOLOGY
- AGRICULTURE
- HOMESCIENCE

KICD

KENYA INSTITUTE OF CURRICULUM DEVELOPMENT

REPUBLIC OF KENYA

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FOREWORD

The Basic Education Curriculum Framework (BECF) outlines the vision and mission for the curriculum reforms. The Vision of the curriculum reforms is to develop "An engaged, an empowered and ethical citizen "while the mission is to "To nurture the potential of every learner".

The framework adopts a Competency Based Curriculum and has identified seven core competencies, namely; communication and collaboration, critical thinking and problem solving, creativity and imagination, Social Cohesion, digital literacy, learning to learn, and self-efficacy. It provides a variety of opportunities for identification and nurturing of learner's potentials and talents in preparation for life and the world of work. It is geared towards making learning enjoyable.

Curriculum designs are developed to enable implementation of the Basic Education Curriculum Framework. The designs contain the National Goals of Education and outline the upper primary (Grade 4,5and 6) learning outcomes. The designs also suggest a variety of learning experiences, assessment and links the strands to values, Pertinent and Contemporary Issues (PCIs) and to other learning areas.

It is my hope that these Curriculum Designs will guide teachers in the implementation of the Competency Based Curriculum.

PROF: GEORGE A. O. MAGOHA EBS, CBS, MBS
CABINET SECRETARY
MINISTRY OF EDUCATION

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INTRODUCTION

These designs have been developed for learners in grade 4. The designs are comprehensive enough to guide the teachers to effectively deliver the curriculum.

The teacher must understand the learning outcomes and be able to use the suggested learning experiences to achieve the outcomes. The teacher can also design own learning experiences as long as learners achieve the designed learning outcomes. A variety of learning experiences will ensure that learners are engaged in the learning experience. Practical experiences will allow learners to retain more in the learning process. The designs allow the teachers to use a variety of assessment methods but in the end, they must evaluate the achievement of the learning outcomes.

The curriculum designs are very critical and teachers must make reference to them consistently.

NATIONAL GOALS OF EDUCATION

1. **Foster nationalism, patriotism, and promote national unity**
   Kenya's people belong to different communities, races and religions and should be able to live and interact as one people. Education should enable the learner acquire a sense of nationhood and patriotism. It should also promote peace and mutual respect for   harmonious co-existence.

2. **Promote social, economic, technological and industrial needs for national development**
   Education should prepare the learner to play an effective and productive role in the nation.

   a) **Social Needs**
   Education should instill social and adaptive skills in the learner for effective participation in community and national development.

   b) **Economic Needs**
   Education should prepare a learner with requisite competences that support a modern and independent growing economy. This should translate into high standards of living for every individual.

   c) **Technological and Industrial Needs**
   Education should provide the learner with necessary competences for technological and industrial development in tandem with changing global trends.

3. **Promote individual development and self-fulfillment**
   Education should provide opportunities for the learner to develop to the fullest potential. This includes development of one's interests, talents and character for positive contribution to the society.

4 **Promote sound moral and religious values**
   Education should promote acquisition of national values as enshrined in the Constitution. It should be geared towards developing a self-disciplined and ethical citizen with sound moral and religious values.

5. **Promote social equity and responsibility**
    Education should promote social equity and responsibility. It should provide inclusive and equitable access to quality and differentiated education; including learners with special educational needs and disabilities. Education should also provide the learner with opportunities for shared responsibility and accountability through service learning.

6. **Promote respect for and development of Kenya's rich and varied cultures**
    Education should instill in the learner appreciation of Kenya's rich and diverse cultural heritage. The learner should value own and respect other people's culture, as well as embrace positive cultural practises in a dynamic society.

7. **Promote international consciousness and foster positive attitudes towards other nations**
    Kenya is part of the interdependent network of diverse peoples and nations. Education should therefore enable the learner to respect, appreciate and participate in the opportunities within the international community. Education should also facilitate the learner to operate within the international community with full knowledge of the obligations, responsibilities, rights and benefits that this membership entails.

8. **Good health and environmental protection**
    Education should inculcate in the learner the value of physical and psychological well-being for self and others. It should promote environmental preservation and conservation, including animal welfare for sustainable development.

LEVEL LEARNING OUTCOMES FOR THE MIDDLE SCHOOL

By the end of the middle school the learner should be able to:

1. apply literacy, numeracy skills and logical thinking appropriately in self-expression;

2. communicate effectively in diverse contexts;

3. apply digital literacy skills appropriately for communication and learning in day to day life;

4. demonstrate social skills, spiritual and moral values for peaceful co-existence;

5. explore, manipulate, manage and conserve the environment effectively for learning and sustainable development;

6. practise hygiene, appropriate sanitation and nutrition to promote health;

7. demonstrate ethical behaviour and exhibit good Social Cohesion as a civic responsibility;

8. manage pertinent and contemporary issues in society effectively;

9. demonstrate appreciation of the country's rich, diverse cultural heritage for harmonious living;

DISTRIBUTION OF LESSONS PER WEEK

NO	SUBJECTS	NO. OF LESSON
1.	KISWAHILI/KSL	4
2.	ENGLISH	4
3.	OTHER LANGUAGE/BRAILLE	2
4.	SCIENCE &TECHNOLOGY	4
5.	SOCIAL STUDIES	3
6.	MATHEMATICS	5
7.	HOME SCIENCE	3
8.	AGRICULTURE	3
9.	RELIGIUOS EDUCATION	3
10.	ART CRAFT	2
11.	MUSIC	1
12.	PHYSICAL AND HEALTH EDUCATION	5
13.	PPI	1
	TOTAL	**40**

MATHEMATICS

ESSENCE STATEMENT

Mathematics is a vehicle of development and improvement of a country's economic achievement. By learning mathematics; learners develop an understanding of numbers, logical thinking and problem-solving skills. Mathematics is applied in all aspects of life including business, social and political. At grade four level mathematics will build on the competences acquired by the learner in the early years of education. Learning mathematics will also appropriate the learner's competencies in numeracy as a foundation of STEM at higher levels of Education cycle. Mathematics is also a subject of enjoyment and excitement as it gives learners opportunities for creative work and fun.

GENERAL LEARNING OUTCOMES

By the end of Upper Primary the learner, should be able to:
1) Demonstrate mastery of number concepts by working out problems in day to day life,

2) Apply measurement skills to find solutions to problems in a variety of contexts,

3) Describe properties of geometrical shapes and spatial relationships in real life experiences,

4) Collect, represent and analyze data to solve problems in day to day life situations,

5) Analyze information using algebraic expressions in real life situations.

Strand	Sub – Strand	Suggested Learning Outcome	Suggested Learning Experiences	Key Inquiry Question
1.0 NUMBERS	**1.1 WHOLE NUMBERS (20 Lessons)**	By the end of the sub-strand, the learner should be able to; a) use place value and total value of digits up to tens of thousands in daily life situations, b) read and write numbers up to 10,000 in symbols in real life situations, c) read and write numbers up to 1,000 in symbols and words in day to day activities, d) order numbers up to 1,000 in different situations, e) round off numbers up to 1,000 to the nearest ten in day to day activities, f) identify factors and divisors of numbers up to 50 in different contexts, g) identify multiples of numbers up to 100 in different situations,	• in pairs or groups, learners to identify place value of up to tens of thousands using place value apparatus. • learners with blindness could be guided to use abacus, cubes and cubarithm boards, plastic types and Taylor frames to identify place value of up to tens of thousands. • in pairs or groups, learners with low vision to identify total values of digits up to tens of thousands using place value pockets or charts with appropriate colour contrast and appropriate font size. • in pairs or groups, learners with blindness to identify total values of digits up to tens of thousands using abacus, cubes and cubarithm boards, plastic types and Taylor frames • in pairs or groups or individually, learners with low vision to read and write numbers up to 10,000 in symbols from a number chart with appropriate colour contrast and font size while learners with blindness could use Braille number charts.	1. What do you consider when writing numbers in words? 2. How can you find the place value of a digit in a number? 3. How can you find the total value of a digit in a number?

			h) use even and odd numbers up to 100 in different situations, i) represent Hindu Arabic numerals using Roman numerals up to 'X' in different context, j) make patterns involving even and odd numbers in day to day life experiences, k) use appropriate digital devices with appropriate assistive software for learning and leisure, l) appreciate use of numbers in real life situations.	• in pairs or groups or individually, learners with low vision to read and write numbers up to 1,000 in words from a number chart with appropriated colour contrast and font size while learners with blindness could use Braille number charts. • in pairs, learners with low vision could be guided to arrange numbers up to 1,000 in order from smallest to largest and largest to smallest using number cards with appropriate colour contrast and font size while in pairs, learners with blindness could be guided to arrange numbers up to 1,000 in order from smallest to largest and largest to smallest using Braille number cards and share with other groups. • in pairs or groups or individually, learners round off numbers up to 1,000 to the nearest ten and share with other groups. • in pairs or groups or individually, learners to identify factors and divisors of numbers up to 50 and share with other groups. • in pairs or groups, learners to identify multiples of numbers up to 100 and share with other groups.	

			- in pairs or groups, learners to identify even and odd numbers up to 100 and share with other groups. - in pairs or groups, learners with low vision to represent Hindu Arabic numerals using Roman numerals up to 'X' using number charts with appropriate colour contrast and font size while in pairs or groups, learners with blindness to represent Hindu Arabic numerals using Roman numerals up to 'X' using Braille number charts. - in pairs or groups, learners to make patterns involving even and odd numbers and share with other groups. - in pairs or groups, learners to play digital games involving whole numbers. Learners with blindness could use appropriate digital devices with assistive software such as voice output; learners with low could use appropriate digital devices with assistive software that adjusts colour, contrast and font size for learning and enjoyment.	

Core Competencies to be developed:

- Critical thinking and problem solving: This is developed as learners identify place value, order numbers and round off numbers.
- Learning to learn: This is developed as learners read and write numbers.
- Digital literacy: This is developed as learners use appropriate digital devices with assistive software to learn and play digital games.

Link to pertinent and Contemporary Issues (PCIs):	Link to values:
• Social Cohesion: This is developed as learners work in groups irrespective of their backgrounds. • Financial Literacy: This is developed as learners order and group different denominationse.eg. Coins in groups of tens, hundreds.	• Unity: This is developed as learners work in groups to identify total values of digits up to 10,000. • Respect: This is developed as learners take turns in arranging numbers from smallest to largest and largest to the smallest.
Link to other learning areas: Languages: This occurs as learners participate in discussions.	**Suggested Community Service Learning:** Learners to share edible and non-edible items in multiples of even numbers in community functions.
Suggested non-formal activity to support learning: This is developed as they play games involving odd and even numbers.	**Suggested assessment:** Oral, observation, written work, self and peer assessment.

Suggested resources:

Abacus, cubes and cubarithms boards, plastic types and Taylor frames, appropriate learners digital devices, Braille number cards , Braille number charts , number charts with appropriate colour contrast and font size **,** number board, talking calculator

ASSESSMENT RUBRIC

Exceeding Expectations	Meeting Expectations	Approaching Expectations	Below Expectations
The learner is able to identify place value up to 100,000	The learner is able to identify place value of numbers up to 10,000 using place value apparatus.	The learner is able to identify place value of numbers up to 10,000 in symbols but identifies in reverse when in words using place value apparatus.	The learner is able to identify the digits but misplaces the value of numbers using place value apparatus.
The learner is able to identify total values of numbers up to 10,000 and is also able to work out sums involving total values	The learner is able to identify total values of numbers up to 10,000	The learner is able to identify total values of numbers up to 10,000, however is unable to identify total value of digit zero	The learner is able to identify the numbers but is unable to distinguish between total and place values
The learner is able to read and write numbers in symbols up to 100,000	The learner is able to read and write numbers in symbols up to 10,000	The learner is able to read and write numbers in symbols up to 10,000 but has challenges in reading numbers with the same digits eg 2222.	The learner is able to identify digits but is unable to combine digits to read the numbers
The learner is able to read and write numbers in words and symbols up to 10,000	The learner is able to read and write numbers in words and symbols up to 1,000	The learner to read and write numbers in words and symbols up to 1,000 but has challenges in reading numbers in words with the same digits.	The learner is able to read and write numbers in symbols only up to 100.
The learner is able to order numbers up to 2,000	The learner is able to order numbers up to 1,000	The learner is able to order numbers up to 900.	The learner is able to order numbers up to 100.
The learner is able to round off numbers up to 2,000 to the nearest ten	The learner is able to round off numbers up to 1,000 to the nearest ten	The learner is able to round off numbers up to 1,000 to the nearest ten but has challenges in rounding off numbers that end with digits 5-9.	The learner is able to round off numbers that end with digit zero up to 100 to the nearest ten.
The learner is able to identify factors and divisors up to 100	The learner is able to identify factors and divisors up to 50	The learner is able to identify factors and divisors of numbers up to 50 but has difficulties of	The learner is able to read factors and divisors on chart.

		finding factors and divisors of odd numbers.	
The learner is able to identify multiples of numbers up to 100 and even form a multiplication table.	The learner is able to identify multiples of numbers up to 100.	The learner is able to identify multiples of numbers up to 100 using the multiplication table.	The learner is able to recite multiples of 10.
The learner is able to make patterns using even and odd numbers up to 200.	The learner is able to make patterns using even and odd numbers up to 100.	The learner is able to make patterns using even and odd numbers up to 100 in ascending order only.	The learner is able to make patterns using even numbers up to 10.
Learner is able to create and solve problems involving whole numbers using digital devices with assistive software for learning and enjoyment.	Learner is able to use appropriate digital device with assistive software for learning and enjoyment.	Learner is able to play part of the game involving whole numbers using digital devices with assistive software.	Learner is able to access the game using digital devices with assistive software.

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Questions
	1.**2 ADDITION (8 Lessons)**	By the end of the sub-strand, the learner should be able to; a) add up to two 4-digit numbers with single regrouping up to a sum of 10,000 in different situations, b) add up to two 4-digit numbers with double regrouping up to a sum of 10,000 in real life situations,	• In pairs or groups, learners with low vision add up to two 4-digit numbers with single regrouping up to a sum of 10,000 in different situations by first guiding them to align the digits in their square exercise books with bold rule lines vertically while learners with blindness could be guided to write the digits in Braille vertically and to add up to two 4-digit numbers	1. How do you add numbers? 2. What do you consider when estimating answers in addition? 3. How do you form numbers

| | | c) estimate sum by rounding off numbers to the nearest ten in different situations,
d) create patterns involving addition up to a sum of 10,000 in real life situations,
e) use appropriate digital devices with assistive software for learning and enjoyment,
f) appreciate application of addition of numbers in real life situations. | with single regrouping up to a sum of 10,000 by setting and clearing beads on the abacus, aligning and working out using plastic types and Taylor frames, cubes and cubarithmboards

• In pairs or groups, learners with low vision add up to two 4-digit numbers with double regrouping up to a sum of 10,000 in different situations by first guiding them to align the digits in their square exercise books with bold rule lines vertically while learners with blindness could be guided to write the digits in Braille vertically and to add up to two 4-digit numbers with double regrouping up to a sum of 10,000 by setting and clearing beads on the abacus, aligning and working out using plastic types and Taylor frames, cubes and cubarithmboards
• In pairs or groups, learners to estimate answers by rounding off.
• In pairs or groups, learners to round off numbers to be added to the nearest ten. | patterns in addition? |

			• In pairs or groups, learners to create patterns involving addition up to a sum of 10,000. • In pairs or groups, learners to play digital games involving addition. • In pairs or groups or individually, learners to play digital games involving addition. • learners with blindness could use appropriate digital devices with assistive software such as voice output, learners with low vision could use appropriate digital devices with assistive software that adjusts colour, contrast and font size for learning and enjoyment.	

Core Competencies to be developed:
- Self-efficacy: This is developed as learners make reports in their groups.
- Critical thinking and problem solving: This is developed as learners add numbers, estimate and round off numbers in making patterns.
- Creativity and imagination: This is developed as learners make patterns.

Digital literacy: This is developed as learners use appropriate digital devices with assistive software to learn and play games involving addition.

Link to Pertinent and Contemporary Issues (PCIs):	**Link to values:**
• Social Cohesion: This is developed as learners work in pairs/groups. • Environmental education: This is developed as learners get the total number of a variety of trees in the school compound.	• Respect: This is developed as learners take turns in adding numbers. • Unity: This is developed as learners work in groups to solve addition problems. • Responsibility: This is developed as learners take care of resources used.

Link to other learning areas:	Suggested Community Service Learning:
• Languages: This occurs as learners discuss in groups. • Agriculture: This occurs as learners add items like seedling, seeds or fertilizer.	• Learners to assist in finding number of items or people in community functions like weddings, parties.
Suggested non-formal activity to support learning: Learners to recite poems involving addition.	**Suggested assessment** Observation as learners work in pairs and groups, oral questions, written exercises, portfolio and peer and self assessment**.**

Suggested resources:
Abacus, cubes and cubarithm boards, plastic types and Taylor frames, Braille charts and Braille cards, embossed number line and charts with appropriate colour contrast and font size.

ASSESSMENT RUBRIC

Exceeding Expectations	Meeting Expectations	Approaching Expectations	Below Expectations
The learner is able to add up to three 4-digit numbers with single regrouping	The learner is able to add up to two 4-digit numbers with single regrouping	The learner is able add up to two 4-digit numbers with single regrouping but has difficulties in aligning the answer.	The learner is able to add two 3-digit numbers without regrouping.
The learner is able to add up to three 4-digit numbers with double regrouping	The learner is able to add up to two 4-digit numbers with double regrouping.	The learner is able to add up to two 4-digit numbers with double regrouping but has difficulties in aligning the answer.	The learner is able to add two 3-digit numbers without regrouping.
The learner is able to estimate answers by rounding off to the nearest 100	The learner is able to estimate answers by rounding off numbers to the nearest 10	The learner is able to estimate answers by rounding off numbers to the nearest 10 but has challenges in	The learner is able to estimate answers by rounding off numbers that end with zero to the nearest 10.

			rounding off numbers that end with digits 5-9.	
The learner is able to create patterns involving addition up to a sum of 20,000.	The learner is able to create patterns involving addition up to a sum of 10,000.	The learner is able to create patterns involving addition up to a sum of 10,000 with numbers that end with digits zero and five.	The learner is able to create patterns involving addition up to a sum of 1,000.
Learner is able to create and solve problems involving addition using digital devices with assistive software fast and accurately for learning and enjoyment.	Learner is able to use appropriate digital device with assistive software correctly for learning and enjoyment.	Learner is able to play part of the game involving addition using digital devices with assistive software.	Learner is able to access the game using digital devices with assistive software.

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Questions
NUMBERS	**1.3 SUBTRACTION (8 Lessons)**	By the end of the sub-strand, the learner should be able to; a) subtract up to 4-digit numbers without regrouping in different situations, b) subtract up to 4-digit numbers with regrouping in different situations, c) estimate difference by rounding off numbers to	• In pairs or groups, learners with low vision subtract numbers up to 4-digit numbers without regrouping in different situations by first guiding them to align the digits in their square exercise books with bold rule lines vertically while learners with blindness could be guided to write the digits in Braille vertically	1. How do you subtract numbers? 2. How do you estimate the difference of given numbers? 3. How do you create patterns involving subtraction?

		the nearest ten in real life situations, d) create patterns involving subtraction up to 10,000 in real life situations, e) use appropriate digital devices with assistive software for learning and enjoyment, f) appreciate application of subtraction of numbers in real life situations.	and to subtract up to 4-digit numbers without regrouping by setting and clearing beads on the abacus, aligning and working out using plastic types and Taylor frames, cubes and cubarithmboards. • in pairs or groups or individually, learners with low vision to subtract up to 4-digit numbers with regrouping by first guiding them to align the digits in their square exercise books with bold rule lines vertically while learners with blindness could be guided to write the digits in Braille vertically and to subtract numbers up to 4-digit numbers with regrouping by setting and clearing beads on the abacus, aligning and working out using plastic types and Taylor frames, cubes and cubarithm boards. • in pairs or groups, learners to estimate and work out difference by rounding off the numbers to the nearest ten.	

| | | | | • in pairs or groups, learners to create patterns involving subtraction of numbers up to 10,000.
• In pairs or groups or individually, learners to play digital games involving subtraction.
learners with blindness could use appropriate digital devices with assistive software such as voice output, learners with low vision could use appropriate digital devices with assistive software that adjusts colour contrast and font size for learning and enjoyment. | |

Core Competencies to be developed:
- Creativity and imagination: This is developed as learners make patterns involving subtraction.
- Critical thinking and problem solving: This is developed as learners estimate answers in subtraction.
- Digital literacy: This is developed as learners play digital games involving subtractions.

Link to Pertinent and Contemporary Issues (PCIs):	**Link to Values:**
• Social Cohesion: This is developed as learners work in groups and pairs in making patterns. • Environmental education: This is developed as learners help sort maize in the school farm and subtract the number of good maize in a given quantity of maize.	• Responsibility: This is developed as learners undertake their tasks in groups. • Respect: This is developed as learners come up with common solutions to subtraction.
Link to other learning areas:	**Suggested Community Service Learning:**
• Languages: This occurs as learners discuss in groups and in pairs.	• Learners may assist in distribution of items in community functions.
Suggested non-formal activity to support learning:	**Suggested assessment:**

	Oral questions, written exercises on subtraction, observation as learners work in groups, portfolio, peer and self - assessment**.**
Learners could be guided to recite poems involving subtraction.	

Suggested resources:
cubes and cubarithm boards, plastic types and Taylor frames, abacuses ,number board ,talking calculator, Braille charts and Braille cards, charts and cards with appropriate colour contrast and font size.

ASSESSMENT RUBRIC

Exceeding Expectations	Meeting Expectations	Approaching Expectations	Below Expectations
The learner is able to subtract up to three 4-digit numbers without regrouping	The learner is able to subtract up to two 4-digit numbers without regrouping	The learner is able subtract up to two 4-digit numbers without regrouping but has difficulties in aligning the answer.	The learner is able to subtract two 3-digit numbers without regrouping.
The learner is able to subtract up to three 4-digit numbers with regrouping	The learner is able to subtract up to two 4-digit numbers with regrouping.	The learner is able to subtract up to two 4-digit numbers with regrouping but has difficulties in aligning the answer.	The learner is able to subtract two 3-digit numbers with regrouping.
The learner is able to estimate difference by rounding off to the nearest 100	The learner is able to estimate difference by rounding off numbers to the nearest 10	The learner is able to estimate difference by rounding off numbers to the nearest 10 but has challenges in rounding off numbers that end with digits 5-9.	The learner is able to only estimate difference by rounding off numbers that end with zero to the nearest 10.
The learner is able to create patterns involving subtraction up to a sum of 20,000.	The learner is able to create patterns involving subtraction up to a sum of 10,000.	The learner is able to create patterns involving subtraction	The learner is able to create patterns involving subtraction up to a sum of 1,000 only.

		up to a sum of 10,000 with numbers that end with digits zero and five.	
Learner is able to create and solve problems involving subtraction using digital devices with assistive software fast and accurately for learning and enjoyment.	Learner is able to use appropriate digital device with assistive software correctly for learning and enjoyment.	Learner is able to play part of the game involving addition using digital devices with assistive software.	Learner is able to access the game using digital devices with assistive software.

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Question
	1.4 Multiplication (8 Lessons)	By the end of the sub-strand the learner should be able to: a) Multiply up to a 2-digit number by multiples of 10 in different situations, b) Multiply up to a 2-digit number without and with regrouping in real life situations, c) Estimate products by rounding off numbers to the nearest ten in real life situations, d) Create patterns involving multiplication with products not exceeding 100 in real life situations, e) Use appropriate digital devices with appropriate assistive software for learning and enjoyment f) Appreciate application of multiplication of numbers in real life situations.	• In pairs or groups or individually, learners with low vision to multiply up to 2-digit numbers by multiples of 10 by first guiding them to align the digits in their square exercise books with bold rule lines vertically, while learners with blindness to do so by setting and clearing beads on the abacus, by aligning and working out using plastic types and Taylor frames and cubes and cubarithm board. • In pairs or groups or individually, learners with low vision to multiply up to a 2-digit number by a 2-digit number with and without regrouping by first guiding them to align the digits in their square exercise books with bold rule lines while learners with blindness do so by setting and clearing beads on the abacus, aligning and working out using plastic types and Taylor frames and cubes and cubarithm boards. • Learner in pairs, groups or individually to estimate and work out answers by rounding off	1) How do you estimate products of given numbers? 2) How do you create patterns involving multiplication?

			numbers to the nearest ten with product not exceeding 1,000.	
			• Learners in pairs or groups to create patterns involving multiplication with products not exceeding 100.	
			• In pairs or groups or individually, learners to play digital games involving multiplication	
			• Learners with blindness could use appropriate digital devices with assistive software such as voice output, learners with low vision could use appropriate digital devices with assistive software that adjusts colour contrast and font size for learning and enjoyment.	

Core Competencies to be developed
- Critical thinking and problem solving: This is developed as learners estimate answers in multiplication tasks.
- Creativity and imagination: This is developed as learners make patterns involving multiplication of numbers.
- Digital literacy: This is developed as learners play games involving multiplication.

Link to pertinent and contemporary issues (PCIs)	**Link to values**
• Social cohesion: This is developed as learners work in pairs and groups.	• Unity: This is developed as learners work in groups.
• Environmental education: This is developed as learners collect and re-use waste or refuse in the compound to make patterns e.g. bottle tops used in multiplication.	• Love: This is developed as learners discuss in groups.
	• Responsibility: This is developed as learners undertake their tasks in groups.
Link to other learning areas	**Suggested Community Service Learning Activities**

• Language: this occurs as learners discuss in pair and groups. • Agriculture: This occurs as learners work out number of rows and number of seedlings in each row in the school garden.	Learners may help in finding out total number of items in a group like total number of seedlings given the rows and numbers in each row.
Suggested non-formal activity to support learning Learners could be guided to recite poems involving multiplication	**Suggested Assessment** Oral questions, written exercises on multiplication observation as learners work in groups.
Suggested resources Cubes and cubarithm boards, abacus, plastic types and Taylor frames, number board, talking calculator, Braille charts, charts and cards with appropriate colour contrast and font size.	

ASSESSMENT RUBRIC

Exceeding expectations	Meeting expectations	Approaching expectations	Below expectations
The learner is able to multiply up to a 2-digit number by multiples of 10 and 11	The learner is able to multiply up to a 2-digit number by multiples of 10	The learner is able to multiply up to a 1-digit number by multiples of 10.	The learner is able multiply 1-digit number by 1-digit number.
The learner is able to multiply a 2-digit number by a 2-digit number with regrouping	The learner is able to multiply 2-digit number by a 2 digit number	The learner is able to multiply a 1-digit number by a 2-digit number.	The learner is able to multiply a 1-digit number by a 1-digit number.
The learner is able to estimate products in multiplication by rounding off to the nearest 100	The learner is able to estimate products in multiplication by rounding off to the nearest 10	The learner is able to estimate products in multiplication by rounding off to the nearest 10 but has challenges in rounding off numbers that end with digits 5-9.	The learner is able to estimate products in multiplication by rounding off numbers that end with zero to the nearest 10.
The learner is able to create patterns involving multiplication with products not exceeding 1000.	The learner is able to create patterns involving multiplication with products not exceeding 100.	The learner is able to create patterns involving multiplication with products not exceeding 100 with numbers that end with digits zero and five.	The learner is able to create patterns involving multiplication with products not exceeding 10
Learner is able to create and solve problems involving multiplication using digital devices with assistive software. fast and accurately for learning and enjoyment.	Learner is able to use appropriate digital device with assistive software correctly for learning and enjoyment.	Learner is able to play part of the game involving multiplication using digital devices with assistive software.	Learner is able to access the game using digital devices with assistive software.

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Questions
	1.5 DIVISION (8 Lessons)	By the end of the sub-strand, the learner should be able to; a) divide up to a 2-digit number by a 1-digit number without remainder in different situations, b) divide up to a 2-digit number by a 1-digit number with remainder in different situations, c) estimate quotient by rounding off numbers in real life situations, d) use relationship between multiplication and division to work out problems in real life situations, e) use appropriate digital devices with assistive software for learning and enjoyment, f) appreciate application of division of numbers in real situations.	• In pairs or in groups learners with low vision could use counters of different colours to arrange by aligning different colours vertically and horizontally while learners with blindness could align counters of different textures vertically and horizontally to work out division of a 2 digit number by a 1 digit number without remainder. • In pairs or in groups learners with low vision could use counters of different colours to arrange by aligning different colours vertically and horizontally while learners with blindness could align counters of different textures vertically and	1. How do you divide numbers? 2. How can you estimate quotient?

			horizontally to work out division of a 2 digit number by a 1 digit number with remainder.	
			• In pairs or groups or individually, learners with low vision to divide up to 2-digit numbers by 1 digit number with and without remainder using short form of division by first guiding them to align the digits in their square exercise books with bold rule lines vertically, while learners with blindness to do so by first aligning correctly on their Braille paper and setting and clearing beads on the abacus, by aligning and working out using plastic types and Taylor frames and also cubes and cubarithm boards.	

			• In pairs or groups or individually, learners with low vision to divide up to 2-digit numbers by 1 digit number with and without remainder using own strategies by first guiding them to align the digits in their square exercise books with bold rule lines vertically, while learners with blindness to do so by first arranging the sums on their Braille paper and then setting and clearing beads on the abacus, by aligning and working out using plastic types and Taylor frames and also cubes and cubarithm board. • Learners to individually estimate quotients in pairs or groups. • Learners to use relationship between	

			multiplication and division in working out problems. • In pairs or groups or individually, learners to play digital games involving division. • learners with blindness could use adapted digital devices with assistive software such as voice output, learners with low vision could use appropriate digital devices with assistive software that adjusts color contrast and font size for learning and enjoyment.	

Core Competencies to be developed:
- Critical thinking and problem solving: This is developed as learners estimate quotient in division and as they relate multiplication to division.
- Digital literacy: This is developed as learners play digital games involving division.

Link to pertinent and contemporary issues (PCIs):	**Link to values:**
• Peer tutoring: This is developed as learners help each other in group work. • Social Cohesion: This is developed as learners work in groups to come up with common solutions.	• Responsibility: This is developed as learners work individually for the common goal of the group. • Respect: This is developed as learners accommodate each other's opinion in the group. • Unity: This is developed as learners work out in groups for a common purpose.

Link to other learning areas:	Suggested Community Service Learning:
• Languages: This occurs as learners express themselves while estimating quotient.	• Learners to assist in sharing out items in equal groups during social functions peer and self assessment.
Suggested non-formal activity to support learning: Learners to organize themselves into teams during play activities. For example, football	**Suggested assessment:** Oral work, written exercises, observation, peer and self assessment
Suggested resources: Counters, Braille charts, multiplication tables, plastic types and Taylor frames, cubes and cubarithm boards Braille multiplication table, appropriate digital devices with appropriate assistive software	

ASSESSMENT RUBRIC

Exceeding Expectations	Meeting Expectations	Approaching Expectations	Below Expectations
The learner is able to divide up to a 3-digit number by a 1- digit number without remainder	The learner is able to divide up to a 2-digit number by a 1- digit number without remainder	The learner is able to divide up to a 2-digit number by a 1- digit number without remainder involving even numbers.	The learner is able to divide a 1-digit number by a 1- digit number and confuses multiplication and division.
The learner is able to divide up to a 3-digit by a 1-digit number with remainder	The learner is able to divide up to a 2-digit number by a 1-digit number with remainder	The learner is able to divide up to a 2-digit number by a 1- digit number with remainder involving even numbers.	The learner is able to divide up to a 2-digit by a 1-digit number with remainder.
The learner is able to estimate quotient by rounding off numbers to the nearest 100	The learner is able to estimate quotient by rounding off to the nearest 10	The learner is able to estimate quotient by rounding off to the nearest 10 but has challenges in rounding off numbers that end with digits 5-9.	The learner is able to estimate quotient by rounding off numbers that end

			with zero to the nearest 10.
The learner is able to relate multiplication and division and create a table showing the relationship	The learner is able to relate multiplication and division	The learner is able relate multiplication and division involving numbers ending with zero and five.	The learner is able to relate multiplication and division involving only one digit number.
Learner is able to create and solve problems involving division using digital devices with assistive software fast and accurately for learning and enjoyment.	Learner is able to use appropriate digital device with assistive software for learning and enjoyment.	Learner is able to play part of the game involving division using digital devices with assistive software.	Learner is able to access the game using digital devices with assistive software only.

Strand	Sub-Strand	Specific Learning Outcome	Suggested Learning Experiences	Key Inquiry Questions
	1.6 FRACTIONS (6 Lessons)	By the end of the sub-strand, the learner should be able to; a) Represent a fraction with denominators not exceeding 12 as part of a whole and part of a group in real life situation. b) represent and write fractions whose denominators do not exceed 12 in different contexts c) identify the numerator and denominator in a fraction in different contexts. d) identify different types of fractions in different contexts, e) convert improper fractions to mixed numbers in different situations, f) convert mixed numbers to improper fractions in different contexts, g) use appropriate digital devices with assistive software for learning and enjoyment, h) appreciate application of fractions in real life situations.	• in pairs or groups, learners represent a fraction with denominator not exceeding 12 as part of a whole and part of a group using concrete objects. • In pairs or groups or individually, learners with low vision to write fractions represented as part of a whole or part of a group by first guiding them to align the digits in their square exercise books with bold rule lines while learners with blindness to do so by first aligning the fractions on Braille paper and also setting and clearing beads on the abacus, by aligning and working out using	1. How can you use fractions in real life situations? 2. How can you represent fractions?

			plastic types and Taylor frames and cubes and cubarithm board. • in pairs or groups, learners to discuss the top and bottom numbers in a fraction and share with other groups. • in pairs or groups, learners to explain the meaning of a numerator and a denominator. • in pairs or groups, learners with low vision to represent fractions as part of a whole or part of a group using cut outs, counters or clock face while learners with blindness do so using tactile materials such as cut outs and tactile clock face. • in pairs or groups, learners, to represent proper, improper and mixed numbers , as part of a whole or	

			as part of a group using paper cutouts or counters, cotton twine, objects of different textures, glue by creating partitions. • in pairs or groups, learners to convert improper fractions to mixed numbers. • in pairs or groups, learners to convert mixed numbers to improper fractions. • In pairs or groups or individually, learners to play digital games involving fractions. • learners with blindness could use appropriate digital devices with assistive software such as voice output, learners with low vision could use appropriate digital devices with assistive software that adjusts color contrast and font	

			size for learning and enjoyment.	

Core Competencies to be developed:
- Critical thinking and problem solving: This is developed as learners convert fractions to mixed numbers.
- Digital literacy: This is developed as learners play digital games on fractions.
- Learning to learn: This is developed as learners use different textures to represent fractions.

Link to pertinent and contemporary issues (PCIs):	**Link to values:**
- Peer education: This is developed as learners help each other in group work. - Safety: This is developed as learners handle counters and concrete objects. - Social Cohesion: This is developed as learners appreciate ethnic groups in Kenya as part of a whole nation.	- Responsibility: This is developed as learners work for the common goal of the group. - Respect: This is developed as learners come up with common solutions in a group.
Link to other learning areas:	**Suggested Community Service Learning:**
- Languages: This occurs as learners discuss in pairs and in groups. - Creative arts: This occurs as they use paper cut outs to represent fractions	- Learners may assist in allocating time for different activities or tasks in a day at home and community. - Learners share out items divided into equal parts at home with family members.
Suggested non-formal activity to support learning: Learners to share items during play.	**Suggested assessment:** Oral, written, observation, portfolio, peer and self assessment

Suggested resources:
Paper cut outs, equivalent fraction board, abacus, plastic types and Taylor frames, cubes and cubarithm boards, glue, scissors, appropriate digital devises with appropriate assistive software.

ASSESSMENT RUBRIC

Exceeding Expectations	Meetings Expectations	Approaching Expectations	Below Expectations
The learner is able to represent fractions as part of a whole and part of a group of fractions with denominators up to 16.	The learner is able to represent fractions as part of a whole and part of a group.	The learner is able to represent a quarter and a half as part of a whole and part of a group.	The learner is able to share whole objects but is unable to represent as a fraction.
The learner is able to represent and write fractions with denominators up to 16	The learner is able to represent and write fractions with denominators up to 12.	The learner is able to represent fractions with denominators up to 10.	The learner is able to represent and write a half and a quarter.
The learner is able to identify numerator and denominator of fractions and even convert mixed numers .	The learner is able to identify numerator and denominator of fractions.	The learner is able to identify denominators of fractions.	The learner is able to identify numerators of fractions denoting one.
The learner is able to identify types of fractions and write different examples.	The learner is able to identify types of fractions in real life situations.	The learner is able to identify proper fractions and mixed numbers but has difficulty identifying improper fractions.	The learner is able to identify proper fractions with one as numerator.
The learner is able to convert fractions from mixed numbers to improper fractions and vice versa and even arrange in order of sequence.	The learner is able to convert fractions from mixed numbers to improper fractions and vice versa.	The learner is able to convert mixed numbers to improper fractions.	The learner is able to indentify proper fractions.
Learner is able to create and solve problems involving fractions using digital devices with assistive software for learning and enjoyment.	Learner is able to use appropriate digital device with assistive software for learning and enjoyment.	Learner is able to play part of the game involving fractions using digital devices with assistive software.	Learner is able to access the game using digital devices with assistive software.

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Questions
	1.7 DECIMALS (10 Lessons)	By the end of the sub-strand, the learner should be able to; a) identify a tenth and a hundredth in real life situations, b) represent decimals using decimal notation in given situations c) identify place value of decimals up to hundredths in different contexts, d) order decimals up to hundredths in computation in different situations, e) use appropriate digital devices with assistive software for learning and leisure, f) appreciate use of decimals in real life situations.	• in pairs or groups, learners to discuss where tenths and hundredths are used. • in pairs or groups, learners with low vision to represent decimals using place value charts with appropriate colour contrast and font size while learners with blindness could be guided to represent decimals in Braille using the Braille symbol for decimal notation and setting and clearing beads on the abacus, aligning and working out using plastic types and Taylor frames, cubes and cubarithm boards. • in pairs or groups learners with low vision to represent tenths and hundredths using place value charts with appropriate colour, contrast and font size while learners with	1. How can you use decimals in real life situations?

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			blindness could be guided to represent decimals in Braille using the Braille symbol for decimal notation and setting and clearing beads on the abacus, aligning and working out using plastic types and Taylor frames, cubes and cubarithm boards.	
			• in pairs or groups or individually, learners to write tenths and hundredths using decimal notation on a place value chart.	
			• learners with blindness could be guided to set decimals on abacus, cubes and cubarithm boards and write them in Braille.	
			• in pairs, groups or individually, learners to order given decimals in ascending and descending order.	
			• In pairs or groups or individually, learners to play digital games involving decimals	

			learners with blindness could use appropriate digital devices with assistive software such as voice output, learners with low vision could use appropriate digital devices with assistive software that adjusts color contrast and font size for learning and enjoyment.	

Core Competencies to be developed:
- Creativity and imagination: This is developed as learners represent decimals on place value chart.
- Critical thinking and problem solving: This is developed as learners order decimals.
- Digital literacy: This is developed as learners use appropriate digital devices with assistive software to play digital games involving decimals.

Link to pertinent and Contemporary Issues (PCIs):	**Link to values:**
• Social Cohesion: This is developed as learners work in a group for a common purpose. • Education for sustainable development: This is through financial literacy as learner's group money in different denominations.	• Social justice: This is developed as learners from different backgrounds work together in groups. • Respect: This is developed as learners accommodate diverse views from the group members in discussions. • Unity: This is developed as learners work out tasks together in the group.
Link to other learning areas:	**Suggested Community Service Learning:**
• Languages: This occurs as learners discuss in pairs or groups.	• Learners may assist in reading measurements in decimals during games or in sports meetings.
Suggested non-formal activity to support learning: Learners to represent decimals using paper cutouts as they play.	**Suggested assessment:** Oral, written, observation, portfolio, peer and self assessment

Suggested resources:
Paper cut outs, a hundred square grid with appropriated colour contrast and font size, Braille chart, abacus, cubes and cubarithm boards, number board, talking calculator, appropriate digital devices with assistive software

ASSESSMENT RUBRIC

Exceeding Expectations	Meetings Expectations	Approaching Expectations	Below Expectations
The learner is able to identify a tenth and a hundredth and even make a hundredth grid	The learner is able to identify a tenth and a hundredth.	The learner is able to identify a tenth but confuses a hundredth.	The learner is able to identify the numerator denoting one.
The learner is able to represents decimals of numbers up to thousandths.	The learner is able to represents decimals using decimal notations.	The learner is able to represent decimals using decimal notations of numbers up to a tenth but confuses some numbers up to a hundredth.	The learner is able to represent fractions but has challenges representing decimals.
The learner is able to identify place value of decimals up to a thousandths	The learner is able to identify place value of decimals up to hundredths.	The learner is able to identify place value of decimals but has challenges in distinguishing tens tenths and hundreds hundredths	The learner is able to identify digits but has difficulties identifying the first digit after the decimal point.
The learner is able to order decimals up to thousandths.	The learner is able to order decimals up to hundredths.	The learner is able to order decimals up to hundredths of digits ending with even numbers.	The learner is able to order decimals up to a tenth.
Learner is able to create and solve problems involving decimals using digital devices with assistive software for learning and enjoyment.	Learner is able to play games involving decimals using digital device with assistive software for learning and enjoyment.	Learner is able to play part of the game involving decimals using digital devices with assistive software.	Learner is able to access the game using digital devices with assistive software.

Strand	Sub -Strand	Suggested Learning Outcomes	Suggested Learning Experiences	Key Inquiry Questions
2.0 MEASUREMENT	**2.1 LENGTH (10 Lessons)**	By the end of the sub-strand, the learner should be able to: a) identify the centimetre as a unit of measuring length in real life situations, b) measure length in centimetres in real life situations, c) estimate and measure length in centimetres in real life situations, d) establish the relationship between metres and centimetres in a real-life situation, e) convert metres to centimetres and centimetres to metres in different contexts, f) work out perimeter of plane figures in different contexts, g) work out addition of length in centimetres and metres in real life situations, h) work out subtraction involving metres and centimetres in real life situations,	• In pairs or groups learners with impairment could be guided to explore a calibrated ruler for familiarization • in pairs or groups, learners with low vision to identify the centimeters on a ruler with appropriate colour contrast while learners with blindness do so on a calibrated ruler. • in pairs or groups, learners with low vision mark out lengths of one centimeter using a ruler with appropriate colour contrasts while learners with blindness do so using a tactile ruler with one on one guidance on holding the ruler	1. How can you measure distance? 2. Why do we measure distance in real life situations?

		i) work out multiplication involving metres and centimetres in real life situations, j) work out division involving metres and centimetres in real life situations, k) use appropriate digital devices with assistive software for learning and enjoyment, l) appreciate use of metres and centimetres in measuring distance in real life situations?	and placing it on objects to be marked. • in pairs or groups learners with low vision measure the lengths of a given object in centimeters using a ruler with appropriate colour contrasts while learners with blindness do so using a tactile ruler with one on one guidance on holding the ruler and placing it on objects to be measured. • in pairs or groups or individually, learners to estimate the length of a given object in centimeters learners with blindness could be given verbal cues as they estimate. • learners to measure actual length of the	

			estimated length in centimeters learners with blindness could be given verbal cues as they measure length.	
			• Learners with low vision could be guided to identify the metre on a metre rule by being given time to explore the calibrated ruler and ruler with appropriate colour contrast.	
			• in pairs or groups, learners with impairment could be guided to measure length in metres and centimetres and establish the relationship between the units by being guided to place the calibrated ruler on familiar surfaces correctly and be given verbal cues.	

			- in pairs or groups, learners to use the relationship between centimetres and metres in real life situations. - Learners with visual impairment could be guided to write symbols representing the metre and centimetre in both print and Braille - in pairs or groups, individually learners, to convert metres into centimetres and centimetres into metres. Provide Braille conversion tables. - in pairs or groups, learners could be guided to work out perimeter of plane figures by manipulating surfaces and embossed plane figures to identify	

			distance all round as perimeter.
			• in pairs or groups, learners to work out addition and subtraction involving metres and centimeters in real life situations by guiding them to align sums correctly.
			• in pairs or groups, learners to work out multiplication involving metres and centimeters by guiding them to align sums correctly.
			• in pairs or groups, learners to work out division involving metres and centimeters by guiding them to align sums correctly.
			• In pairs or groups or individually, learners to play digital games involving length

			learners with blindness could use appropriate digital devices with assistive software such as voice output, learners with low vision could use appropriate digital devices with assistive software that adjusts color contrast and font size for learning and enjoyment.	

Core Competencies to be developed:
- Self-efficacy: This is developed as learners report their estimates.
- Critical thinking and problem solving: This is developed as learners estimate and confirm distances or lengths.
- Digital literacy: This is developed as learners play digital games.

Link to pertinent and contemporary issues (PCIs):	**Link to values:**
- Self-awareness: This is developed as learners estimate distance or length in daily life experience for safety purposes. - Peer Education: This is developed as learners relate their estimates to actual measurement and when measuring heights of seedlings in school to monitor growth.	- Responsibility: This is developed as learners measure and record accurate findings and care for measuring tools. - Respect: This is developed as learners accommodate different answers from each other in the group.
Link to other learning areas:	**Suggested Community Service Learning:**
- Languages: This occurs as learners participate in group discussions. - Home science: This occurs as learners measure length of different items for example clothing materials.	- Learners may assist in measuring length of items in the community that require accuracy. - Learners can measure and mark community playing fields.
Suggested formal and non-formal activities:	**Suggested assessment:**

Learners to mark the play area.	Written, oral, observation and portfolio, self and peer assessment
Suggested resources: Metre ruler, tactile metre rule, tactile tape measure, tape measure, metre stick, appropriate digital devices with assistive software.	

ASSESSMENT RUBRIC

Exceeding Expectations	Meetings Expectations	Approaching Expectations	Below Expectations
The learner is able to identify the centimetre as a unit of measuring length and using arbitrary units to make one centimeter length.	The learner is able to Identify the centimetre as a unit of measuring length.	The learner is able to Identify the centimetre as a unit of measuring length but occasionally skips mentioning it when stating length.	The learner is able to hold a ruler but has difficulty in identifying a centimeter on the ruler.
The Learner is able to measure length in centimetres and record lengths of various items measured neatly and in order of longest to shortest length	The learner is able to measure length in centimetres.	The learner is able to measures length in centimeters but occasionally records the length without specifying the unit.	The learner is able to place the ruler on surfaces to be measured but has difficulty in stating the measurement in centimetres.
The Learner is able to estimates length in centimetres record lengths of various items estimated neatly and in order of longest to shortest length	The learner is able to estimate length in centimetres.	The learner is able to estimate length in centimeters but occasionally gives inaccurate estimates	The learner is able to recall a centimeter as a unit of measuring length and name objects to be estimated.
The learner is able to establish the relationship between metres and centimetres and even makes a conversion table.	The learner is able to correctly establish the relationship between metres and centimetres.	The learner is able to establish the relationship between metres and centimeters occasionally but interchanges them.	The learner is able to recall a centimeter as a unit of measuring length but has

			challenges in relating it to a metre.
The learner is able to convert metres to centimetres and measures different surfaces and states their length both in centimetres and metres	The learner is able to convert metres to centimetres.	The learner is able to convert metres to centimeters but occasionally interchanges them.	The learner is able to state the number of centimeters on a metre rule.
The learner is able to convert centimetres to metres and measures different surfaces and states their length both in centimetres and metres	The learner is able to convert centimetres to metres correctly.	The learner is able to convert centimetres to metres but occasionally interchanges them	The learner is able to state the number of centimeters on a metre rule
The learner is able to work out perimeter of plane shapes and convert the perimeter in both metres and centimetres	The learner is able to work out perimeter of plane shapes correctly.	The learner is able to state the length and width of plane shapes but has difficulty in working the perimeter.	The learner is able to identify plane shapes but is unable to distinguish between length and width.
The learner is able to work out addition of length of even more than three different items in centimetres and metres	The learner is able to work out addition of length in centimetres and metres correctly.	The learner is able to work out addition of length in centimetres and metres but has difficulty in regrouping centimeters to metres.	The learner is able to work out addition of length in centimetres and metres of 2 digit numbers without regrouping but has difficulty in indicating the symbols for metres and centimeters
The learner is able to subtract length of even more than three different items in centimetres and metres	The learner is able to subtract length in centimetres and metres.	The learner is able to subtract length in centimetres and metres but has difficulty in regrouping centimeters to metres.	The learner is able to subtract length in centimetres and metres of 2 digit numbers without regrouping but has difficulty in indicating the symbols

			for metres and centimeters
The learner is able to multiply length of even more than three different items in metres and centimetres	The learner is able to multiply length metres and centimetres.	The learner is able to multiply metres and centimetres but has difficulty in regrouping centimeters to metres.	The learner is able to multiply length in centimetres and metres of 2 digit numbers without regrouping but has difficulty in indicating the symbols for metres and centimeters metres.
The learner is able to divide length of even more than three different items in metres and centimetres	The learner is able to divide length in metres and centimetres.	The leaner is able to divide length but has difficulty in regrouping centimeters to metres.	The learner is able to divide length in centimetres and metres of 2 digit numbers without regrouping but has difficulty in indicating the symbols for metres and centimeters.
Learner is able to create and solve problems involving length using digital devices with assistive software for learning and enjoyment.	Learner is able to play games involving length using digital device with assistive software for learning and enjoyment.	Learner is able to play part of the game involving length using digital devices with assistive software.	Learner is able to access the game using digital devices with assistive software.

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Questions
	2.2 AREA (8 Lessons)	By the end of the sub-strand, the learner should be able to; a) compare area of given surfaces by direct comparison, b) calculate area of squares and rectangles by counting unit squares, c) calculate area of squares and rectangles as a product of number of rows and columns in different context, d) use appropriate digital devices with assistive technology for learning and enjoyment, e) appreciate use of rows and columns in calculating area of squares and rectangles in real life situations.	• in pairs or groups, learners with low vision to compare areas of two surfaces with appropriate colour and contrast directly by placing one surface on the other while learners with blindness could be guided to compare area of two tactile surfaces of different textures with vocal prompts. • in pairs or groups, learners with low vision to use different units square cut-outs with appropriate colour contrast to cover a given surface while learners with blindness could be guided to do so using tactile square unit cut outs, square wire boards to cover a given tactile surface and be given vocal prompts. • in pairs or groups, learners with low	1. How can you work out area of different surfaces?

			vision to count the number of square unit cut outs used to cover a given surface while learners with blindness could be guided to count the number of tactile square units used to cover a given tactile surface. • in pairs or groups, learners with low vision to establish that area of a rectangle or a square is same as number of rows multiplied by number of columns while learners with blindness could be paired with sighted guides to establish that area of a square is the same as number of tactile square units in a row multiplied by number of tactile square units in a column. • in pairs or groups, learners to work out area of squares and rectangles by multiplying number of	

			rows and number of columns and be guided to align their work on either square exercise books with bold lines or Braille paper neatly . • In pairs or groups or individually, learners to play digital games involving area learners with blindness could use appropriate digital devices with assistive software such as voice output, learners with low vision could use appropriate digital devices with assistive software that adjusts color contrast and font size for learning and enjoyment.	

Core Competencies to be developed:
- Communication and collaboration: This is developed as learners work in groups or pairs to count unit squares that cover a given surface.
- Digital literacy: This is developed as learners play digital games.
- Learning to learn: This is developed as learners explore areas of different shapes in their homes.

Link to Pertinent and Contemporary Issues (PCIs):	**Link to values:**
• Social cohesion: This is developed through as learners work out area of plane figures in pairs or groups.	• Respect: This is developed as learners take turn in placing and counting square cut outs in pairs or groups.

• Environmental education: This is developed through environmental education as learners calculate area of the flower gardens in the school and estimate the number of flowers in them.	• Responsibility: This is developed as learners take care of learning materials used.
Link to other learning areas: • Languages: This occurs as learners discuss in group activities.	**Suggested Community Service Learning:** • Learners may assist in working out number of tiles to be used to cover the floor in their home. • Learners may visit a farmer in the neighborhood and help calculate area of land under different crop/livestock. • Learners may work out area of tables at home and report to the teacher.
Suggested non-formal activity to support learning: Learners to mark their areas of operation in various games learners with blindness could be guided to mark using tactile apparatus.	**Suggested assessment:** Oral, written and observation, peer and self assessment
Suggested resources: Square cut outs, square tactile cut outs, metre rule, tape measures, strings, glue, appropriate digital devices.	

ASSESSMENT RUBRIC

Exceeding Expectations	Meetings Expectations	Approaching Expectations	Below Expectations
The learner is able to compare area of squares and rectangles through counting and record area of various surfaces neatly and in order of largest to smallest area	The learner is able to compare area of squares and rectangles through counting.	The learner is able to compare area of squares through counting.	The learner is able to count squares and rectangles.
The learner is able to calculate area of squares and rectangles through counting and record area of various surfaces neatly and in order of largest to smallest area	The learner is able to calculate area of squares and rectangles through counting.	The learner is able to calculate area of squares and rectangles through counting but does not denote the units of measurement.	The learner is able to count squares and rectangles on a given surface but has difficulty to establish area.
The learner is able to calculate area of squares and rectangles as product of number of rows and records area of various surfaces neatly and in order of largest to smallest area.	The learner is able to calculate area of squares and rectangles as product of number of rows and columns.	The learner is able to calculate area of squares and rectangles through counting but is unable to denote the units of measurement	The learner is able to count squares and rectangles on a given surface but has difficulty to establish area.
Learner is able to create and solve problems involving area using digital devices with assistive software for learning and enjoyment.	Learner is able to play games involving area using digital device with assistive software for learning and enjoyment.	Learner is able to play part of the game involving area using digital devices with assistive software.	Learner is able to access the game involving area using digital devices with assistive software.

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Questions
	2.3 MASS (6 Lessons).	By the end of the sub-strand, the learner should be able to; a) use a kilogram mass to measure masses of different objects, b) use ½ kg and ¼ kg masses to measure masses of different objects, c) add mass involving kilograms in real life situations, d) subtract mass involving kilograms in different contexts, e) use appropriate digital devices with assistive software for learning and enjoyment, f) appreciate measuring mass of different objects.	• In pairs or groups, learners to with low vision to use one kilogram masses to measure masses of given objects using a beam balance while learners with blindness use beam balances and masses with Braille labels. • in pairs or groups, learners with low vision make a ½ kg mass and use it to measure mass of given objects using a beam balance while learners with blindness could be provided with beam balances and masses with Braille labels to measure . • In pairs or groups, learners with low vision make a ¼ kg mass and use it to measure mass of given objects using a beam balance and an manual or electronic balance while learners with blindness could be provided with an electronic beam balance with voice output to do so.	1. Why do you measure mass in kilogram?

			• in pairs or groups, learners add mass in kilograms (kg).	
			• in pairs or groups, learners subtract mass in kilograms (kg).	
			• in pairs or groups, learners play digital games involving mass.	
			• learners with blindness and those with low vision could be provided with appropriate digital devices with assistive software such as voice output, and assistive software that adjusts colour contrast and font size.	

Core Competencies to be developed:
- Communication and collaboration: This is developed as learners work in groups to measure mass in ½ kg and ¼ kg.
- Digital literacy: This is developed as learners' play digital games involving mass.
- Critical thinking and problem solving: This is developed as learners prepare ½ kg and ¼ kg masses from 1 kg mass.

Link to Pertinent and Contemporary Issues (PCIs):	**Link to values:**
• Social Cohesion: This is developed as learners work in pairs or groups in measuring mass in ½ kg and ¼ kg. • Animal welfare: This is developed as learners document mass of animal feeds consumed by each animal in school or home. • Safety and security: This is developed as learners play with different objects of different masses in the school compound.	• Respect: This is developed as learners work in groups or pairs in measuring mass. • Integrity: This is developed as learners give their measurements. • Responsibility: this is developed as learners take care of learning materials such as beam balance and electronic balance.
Link to other learning areas:	**Suggested community service Learning:**

• Home Science: This occurs as learners measure mass of different items. • Agriculture: This occurs as learners apply knowledge of measurement of mass to measure livestock feed. • Languages: This is developed as learners learn new vocabulary on mass.	• Learners may assist in measuring mass of food stuff in school or at home. • Learners may assist farmers in feeding animals with different masses of feeds.	

Suggested non-formal activity to support learning: Learners to play games using a see saw.	**Suggested assessment:** Oral, written work, observation, peer and self assessment.
Suggested resources: Beam balance, different masses, manual or electronic balance with voice out put	

ASSESSMENT RUBRIC

Exceeding Expectations	Meetings Expectations	Approaching Expectations	Below Expectations
Learner is able to measure mass in kilograms and is able to compare two items and specify the difference in weight.	Learner is able to measure mass in kilograms.	Learner is able to measure mass in kilograms but has difficulty in recording mass of objects in kilograms.	Learner is able to place different objects on a beam balance but has challenges in stating the mass in kilograms
Learner is able to measure mass using ½ kg and ¼ kg and is able to compare two items and specify the difference in weight.	Learner is able to measure mass using ½ kg and ¼ kg.	Learner is able to measure mass using ½ kg and but has difficulty in measuring using mass of ¼ kg	Learner is able to place different objects on a beam balance but has challenges in stating the mass using ½ kg and ¼ kg mass
The learner is able to add mass in kilograms involving double regrouping	The learner is able to add mass in kilograms	Learner is able to add mass in kilograms but has challenges in aligning and regrouping	Learner is able to add sums involving

			that end with digit 0.
The learner is able to subtract mass in kilograms involving double regrouping	The learner is able to subtract mass in kilograms	Learner is able to subtract mass in kilograms but has challenges in aligning and regrouping	Learner is able to subtract sums involving that end with digit 0.
Learner is able to create and solve problems involving mass using digital devices with assistive software for learning and enjoyment.	Learner is able to play games involving mass using digital device with assistive software for learning and enjoyment.	Learner is able to play part of the game involving mass using digital devices with assistive software.	Learner is able to access the game involving mass using digital devices with assistive software.

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Questions
	2.4 VOLUME (6 Lessons)	By the end of the sub-strand, the learner should be able to: a) work out volume of cubes and cuboids in real life situations, b) use appropriate digital devices with assistive software for learning and enjoyment, c) Appreciate use of piling method in working out volume in real life situations.	• learners with visual impairment could be guided to manipulate cubes to identify different faces of the cubes • in pairs or groups learners could be guided to collect cubes for piling • in pairs or groups learners could be guided to pile cubes from the largest to the smallest • in pairs, groups or individually learners could be guided to count the piles of cubes to determine the volume. Learners with blindness could count by using different textures to mark already counted cubes in the piles. • learners with visual impairment could be guided to manipulate cuboids to identify different faces of the cuboids • in pairs or groups learners could be guided to collect cuboids for piling	1. Why would you work out volume of cubes and cuboids?

			• in pairs or groups learners could be guided to pile cuboids from the largest to the smallest
			• in pairs, groups or individually learners could be guided to count the piles of cuboids to determine the volume. Learners with blindness could count by using different textures to mark already counted cuboids in the piles.
			• In pairs or groups or individually, learners to play digital games involving volume.
			• learners with blindness could use adapted digital devices with assistive software such as voice output, learners with low vision could use appropriate digital devices with assistive software that adjusts color contrast and font size for learning and enjoyment.

Core Competencies to be developed:
- Communication and collaboration: This is developed as learners pile cubes and cuboids.
- Digital literacy: This is developed as learners play digital games.
- Learning to learn: This is developed as learners explore objects of different volumes at home, school or environment.

Link to Pertinent and Contemporary Issues:	Link to Values:
• Environmental education: This is developed as learners make the environment clean and neat. • Safety: This is developed as learners pile objects carefully.	• Integrity: This is developed as learners measure volume accurately.
Links to other learning areas • Language: This occurs as learners discuss in groups. • Agriculture: This occurs as learners learn how to stock hay in a store.	**Suggested Community Services Learning:** • Learners to be involved in stacking hay in stores and arranging boxes in stores or shops.
Suggested non-formal activity to support learning Learners to pile up same items during play	**Suggested assessment:** oral work ,written , observation, portfolio, self and peer assessment
Suggested resources: cubes and cuboids, appropriate digital device with assistive software.	

ASSESSMENT RUBRIC

Exceeding Expectations	Meetings Expectations	Approaching Expectations	Below Expectations
The learner is able to work out volume of cubes and cuboids and record volume of various cubes and cuboids neatly and in order of largest to smallest .	The learner is able to work out volume of cubes and cuboids.	The learner is able to works out volume of cubes but makes errors while working out volume of cuboids.	The learner is able to identify cubes abut has challenges in identifying cuboids and working out their volume.
Learner is able to create and solve problems involving volume using digital devices with assistive software for learning and enjoyment.	Learner is able to play games involving volume using digital device with assistive software for learning and enjoyment.	Learner is able to play part of the game involving volume using digital devices with assistive software.	Learner is able to access the game involving volume using digital devices with assistive software.

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Questions
	2.5 CAPACITY (6 Lessons)	By the end of the sub-strand, the learner should be able to: a) measure capacity in litres in real life situations, b) measure capacity in ½ litres and ¼ litres in real life situations, c) add and subtract capacity involving litres in real life situations, d) use appropriate digital device with assistive software for learning and enjoyment, e) appreciate the use of the litre as a unit of measuring capacity in real life situations.	• in pairs or groups learners with low vision could be guided to measure capacity of containers using a transparent 1litre container and coloured water while learners with blindness to do so by using calibrated containers. • in pairs or groups learners with low vision could be guided to measure capacity of containers using a transparent ½ litre and ¼ litre container and coloured water while learners with blindness to do so by using calibrated ½ litre and ¼ litre containers. • in pairs, groups or individually learners could be guided to use ½ litre and ¼ litre containers to measure capacity of other containers. • Learners with visual impairment could be guided to write the symbol for litres in both print and Braille • in pairs or groups, learners with low vision add	1. How can you measure capacity in real life situations?

			capacity involving litres in different situations by first guiding them to align the digits in their square exercise books with bold rule lines vertically or horizontally while learners with blindness do so in Braille vertically and horizontally
			• in pairs or groups, learners with low vision subtract capacity involving litres in different situations by first guiding them to align the digits in their square exercise books with bold rule lines vertically or horizontally while learners with blindness do so in Braille vertically and horizontally
			• In pairs or groups or individually, learners to play digital games involving capacity.
			• learners with blindness could use adapted digital devices with assistive software such as voice output while learners with low vision could use appropriate digital devices

			with assistive software that adjusts color contrast and font size for playing games involving capacity..	

Core Competencies to be developed:
- Communication and collaboration: This is developed as learners discuss and learn from one another.
- Critical thinking and problem solving: This is developed as learners measure capacity using ½ litre and ¼ litre containers.
- Digital literacy: This is developed as learners play digital games.

Link to Pertinent and Contemporary Issues (PCI's):	**Link to Values:**
• Safety: This is developed as learners prepare ½ litre and ¼ litre containers. • Environmental education: This is developed as learners make the environment clean and neat by avoiding spillage and wastage.	• Integrity: This is developed as learners measure capacity accurately. • Respect: This is developed as learners take turns when measuring.
Link to other learning areas:	**Suggested Community Service Learning:**
• Languages: This occurs as learners discuss in groups. • Home Science : This occurs as learners conduct practical activities involving measurement of capacity.	• Learners help to measure capacity in social functions.

Suggested non-formal activity to support learning:
Learners to fill and empty containers during play.

Suggested assessment:
Oral work, observation, written work, peer and self assessment

Suggested resources: transparent 1, ½ litres and ¼litrescontainers of different capacity coloured water and containers of different capacities

ASSESSMENT RUBRIC

Exceeding Expectations	Meetings Expectations	Approaching Expectations	Below Expectations
Learner is able to measure capacity in litres by filling and emptying using 1 litre container to fill bigger containers of high capacity	Learner is able to measure capacity of different containers in litres by filling and emptying.	Learner is able to measures 1litre only in containers that have 1litre capacity.	Learner is able to fill and empty containers without telling the capacity.
Learner is able to measure capacity using ½ litres and ¼ litres of different containers by filling and emptying and is able to tell how many 1litre containers fill bigger containers.	Learner is able to measure capacity using ½ litres and ¼ litres correctly.	Learner is able to measure capacity using ½ litres and has difficulty in measuring capacity using ¼ litres.	Learner is able to fill and empty containers without telling the capacity.
The learner is able to add capacity in litres involving double regrouping	The learner is able to add capacity in litres	Learner is able to add capacity in litres but has challenges in aligning and regrouping	Learner is able to add sums involving capacity that end with digit 0.
The learner is able to subtract capacity in litres involving double regrouping	The learner is able to subtract capacity in litres	Learner is able to subtract capacity in litres but has challenges in aligning and regrouping	Learner is able to subtract sums involving capacity that end with digit 0.
Learner is able to create and solve problems involving capacity using digital devices with assistive software for learning and enjoyment.	Learner is able to use appropriate digital device with assistive software correctly for learning and enjoyment.	Learner is able to play part of the game involving capacity using digital devices with assistive software.	Learner is able to access the game using digital devices with assistive software.

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Questions
	2.6 TIME (10 Lessons)	By the end of the sub-strand, the learner should be able to: a) read and tell time in a.m. and p.m. in real life situations, b) estimate time of the day using shadows of self, others and objects in real life situations, c) convert units of time involving weeks to days and days to weeks in real life situations, d) record time duration in hours and minutes in real life situations, e) work out time duration in real life situations, f) use appropriate digital device with assistive software for learning and enjoyment, g) appreciate time in real life situations.	• in pairs or groups, learners with low vision to read and tell time in a.m. and p.m. using digital and analogue clocks while learners with blindness use talking/tactile digital or analogue clocks to read and to tell time in a.m. and p.m. learners in pairs or groups to estimate time of the day using the shadow. • learners with blindness could be given verbal cues on lengths of shadows at different times of the day. • in pairs or groups, learners could convert hours to minutes and minutes to hours. • in pairs or groups, learners could convert hours to days and days to hours. • in pairs or groups, learners could convert days to weeks and weeks to days. • in pairs or groups, learners could measure and record duration of events in hours and minutes using digital or analogue clock.	1. How can you tell time? 2. How can you measure time?

			• learners with blindness could be provided with talking digital or tactile analogue clocks to measure and record duration of events in hours and minutes.	
			• in pairs or groups, learners to work out addition involving units of time.	
			• in pairs or groups, learners could work out subtraction involving units of time	
			• In pairs or groups or individually, learners to play digital games involving subtraction.	
			• learners with blindness could use adapted digital devices with assistive software such as voice output, learners with low vision could use appropriate digital devices with assistive software that adjusts color contrast and font size for learning and enjoyment.	

Core Competencies to be developed:

- Imagination and creativity: This is developed as learners estimate time using shadows.
- Learning to learn: This is developed as learners convert different units of time.
- Digital literacy: This is developed as learners play digital games.

Link to Pertinent and Contemporary Issues (PCI's):	**Link to Values:**

• Life skills: This is developed as learners manage time. • Sports and games: This is developed as learners observe time during play activity.	• Responsibility as learners observe time of various activities
Link to other learning areas: • Physical and Health Education: This occurs as learners time activities during play. • Languages: This occurs as learners participate in discussions. • Agriculture: This occurs as learners observe time for feeding animals. • Science and Technology: This occurs as learners use sun as a source of light and also in estimating time duration of experiments.	**Suggested Community Service Learning:** • Learners could assist in maintaining correct time for taking medicine at home or school. • Learners to observe time at home and during community activities. • Learners can visit a farmer to learn seasons and times of the year used in farming e.g. planting, weeding and harvesting.
Suggested non-formal activity to support learning: Learners to observe shadows and relate them to different times of the day.	**Suggested assessment:** Oral, written, observation, portfolio peer and self assessment.
Suggested resources: analogue and digital clock, talking clocks, digital watches, tactile clocks a.m. and p.m. charts with appropriated colour contrast and font size, Braille a.m. and p.m. charts abacus.	

ASSESSMENT RUBRIC

Exceeding Expectations	Meetings Expectations	Approaching Expectations	Below Expectations
The learner is able to read and tell time in a.m. and p.m. and convert into 24 hour system.	The learner is able to read and tell time in a.m. and p.m.	The learner is able to read and tell time but confuses a.m. and p.m.	The learner is able to read figures on the clock face but is unable to tell time.
The learner is able to estimate time using the shadows of self, others and objects and relate position of the sun to actual time.	The learner is able to estimate time using the shadows of self, others and objects.	The learner is able to estimate time using the shadows of self and others.	The learner is able to identify shadows of self, others and objects but is unable to use it to tell time.

The learner is able to convert units of time up to weeks to days and days to weeks and also weeks to months.	The learner is able to convert units of time up to weeks to days and days to weeks.	The learner converts units of time up to hours to minutes but is unable to convert minutes to hours or seconds to minutes.	The learner is only able to identify units of time but is unable to convert them
The learner is able to measure and record time durations in hours and minutes and even in seconds.	The learner is able to measure and record time duration in hours and minutes.	The learner measures and records time durations in hours but has difficulty in recording time in minutes.	The learner is able to measure time duration in hours and minutes but is unable to record.
The learner is able to work out addition of units of time involving hours, minutes and seconds.	The learner is able to work out addition involving units of time involving hours and minutes	Learner is able to work out addition involving units of time but has difficulty in converting minutes to hours.	Learner is able to add but has difficulty in aligning and indicating addition problems involving units of time.
The learner is able to work out subtraction of units of time involving hours, minutes and seconds.	The learner is able to work out subtraction involving units of time hours and minutes	Learner is able to work out subtraction involving units of time but has difficulty in converting hours to minutes.	Learner is able to add but has difficulty in aligning and indicating subtraction problems involving units of time.
Learner is able to create and solve problems involving time using digital devices with assistive software for learning and enjoyment.	Learner is able to use appropriate digital device with assistive software correctly for playing digital games involving time.	Learner is able to play part of the game involving time using digital devices with assistive software.	Learner is able to access the game involving time using digital devices with assistive software.

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Questions
	2.7 MONEY (8 Lessons)	By the end of the sub-strand, the learner should be able to: a) convert shillings into cents and cents into shillings in real life situations, b) participate in shopping activities involving money practically, c) determine needs and wants in real life situations, d) practice saving in real life situations, e) work out questions involving money in real life situations, f) identify money people pay to the county government for provision of services, g) use appropriate digital device with assistive software for learning and enjoyment, h) appreciate the use of money in real life situations.	• in pairs, groups or individually, learners with low vision to convert shillings into cents and cents into shillings using real or imitations of money while learners with blindness do so by being guided to use cues to identify different denominations and imitation money. • in pairs or groups, learners to role play shopping activities involving giving balance using real or imitation money. • in pairs or groups, learners to discuss and prioritize needs and wants. • in pairs or groups, learners to discuss savings at home. • in pairs, groups or individually, learners to discuss how to work out questions involving money.	1. What is the difference between needs and wants? 2. How can you save money?

			- in pairs, groups or individually, to discuss market fee, cess, parking fee and business permit as money people pay to county government for provision of services. - in pairs, groups or individually, learners to play digital games involving money. - learners with blindness could use adapted digital devices with assistive software such as voice output, learners with low vision could use appropriate digital devices with assistive software that adjusts color contrast and font size for learning and enjoyment.	

Core Competencies to be developed:
- Communication and collaboration: This is developed as learners do shopping activities, and giving cash balances.
- Self-efficacy: This is developed as learners discuss and report on needs and wants.
- Creativity and critical thinking: This is developed as learners learn how to spend money using a simple budget.

Link to Pertinent and Contemporary Issues (PCIs):	**Link to Values:**
- Education for sustainable development: This is developed as learners use money in coins and notes. - Financial literacy: This is developed as learners shop and discuss needs, wants and savings.	- Integrity: This is developed as learners spend or withdraw money as directed by parents. - Responsibility: This is developed as learners handle money given by parents.
Link to other learning areas:	**Suggested Community Service Learning:**

• Home Science: This occurs as learners purchase ingredients. • Languages: This occurs as learners discuss in groups.	• Learners participate in shopping activities involving giving cash balance at home. • Learners work with parents to make home money banks.
Suggested non-formal activity to support learning: Learners participate in shopping activities involving giving cash balance at home.	**Suggested assessment:** Written work project, oral, written, observation, portfolio, peer and self assessment
Suggested resources: Imitations of money, real money, price list in Braille and in appropriate colour contrast and font size, saving box.	

ASSESSMENT RUBRIC

Exceeding Expectations	Meetings Expectations	Approaching Expectations	Below Expectations
The learner is able to convert shillings to cents and cents to shillings and even convert larger amounts of money	The learner is able to convert shillings to cents and cents to shillings.	The learner is able to convert shillings to cents and cents to shillings but is unable to indicate units of money and is unable to solve word problems.	The learner has difficulty in identifying units of money.
The learner is able to role play shopping activities and even fixes price tags on items in the shop	The learner is able to role play shopping activities	The learner is able to role play shopping activities but has difficulty in giving correct balance.	The learner is able to identify items in the shop and state their prices.
The learner is able to prioritize needs and wants and prepares a simple budget.	The learner is able to prioritise needs and wants.	The learner is able to identify needs and wants but has difficulty in prioritising.	The learner is unable to differentiate between needs and wants.
The learner is able to practise saving and keep records of each saving made neatly.	The learner is able to practise saving.	The learner is able to practise saving only when reminded to.	The learner is able to practice saving but spends savings before the targeted day.

The learner is able to work out questions involving large amount of money	The learner is able to work out questions involving money	Learner is able to work out questions involving money but has difficulty in converting shillings to cents and cents to shillings	Learner is able to add and subtract but has difficulty in aligning and indicating symbols denoting money
Learner is able to create and solve problems involving money using digital devices with assistive software for learning and enjoyment.	Learner is able to use appropriate digital device with assistive software correctly for playing digital games involving money.	Learner is able to play part of the game involving money using digital devices with assistive software.	Learner is able to access the game involving money using digital devices with assistive software.

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Questions
3.0 GEOMETRY	**3.1 POSITION AND DIRECTION (4 Lessons)**	By the end of the sub-strand, the learner should be able to: a) demonstrate a clockwise and an anti-clockwise turn in the environment, b) demonstrate a quarter turn, half turn and full turns in the environment, c) identify quarter, half and full turns in the environment, d) use appropriate digital devices with assistive software for learning and enjoyment, e) appreciate use of position and direction in real life situations.	• in pairs, groups or individually, learners with low vision could be guided to demonstrate a clockwise turn while learners with blindness to do so by being paired with sighted peers and be given indicators for starting point and ending point in order to demonstrate a clockwise turn. • in pairs, groups or individually, learners with low vision could be guided to demonstrate a anti-clockwise turn while learners with blindness to do so by being paired with sighted peers and be given indicators for starting point and ending point in order to demonstrate an anti-clockwise turn.	Why would you change your position?

			• in pairs, groups or individually, learners with low vision could be guided to demonstrate a quarter turn while learners with blindness to do so by being paired with sighted peers and be given indicators for starting point and ending point in order to demonstrate an quarter turn. • in pairs, groups or individually, learners with low vision could be guided to demonstrate a half turn while learners with blindness to do so by being paired with sighted peers and be given indicators for starting point and ending point in order to demonstrate an half turn. • in pairs, groups or individually, learners with low vision could	

			be guided to demonstrate full turn while learners with blindness to do so by being paired with sighted peers and be given indicators for starting point and ending point in order to demonstrate an full turn.	
			• in pairs, groups or individually, learners could play digital games involving position and direction.	
			• learners with blindness could use appropriate digital devices with assistive software such as voice output, learners with low vision could use appropriate digital devices with assistive software that adjusts color contrast and font size for learning and enjoyment.	

Core Competencies to be developed:
• Imagination and creativity: This is developed as learners make turns in giving directions.

• Learning to learn: This is developed as learners make turns from previously observed parades.	
• Digital literacy: This is developed as learners play digital games.	
Link to Pertinent and Contemporary Issues (PCI's):	**Link to Values:**
• Safety: This is developed as learners observe on coming vehicles while crossing roads.	• Unity: This is developed as learners perform the turns in groups.
• Patriotism: This is developed as learners match while singing patriotic songs.	• Responsibility: This is developed as learners cross roads.
Link to other learning areas:	**Suggested Community Service Learning:**
• Science and Technology: This occurs as learners study directions.	• Learners participate in walks and in national celebration parades during community functions.
• Social Studies: This occurs as learners study position in maps.	
• Music: This occurs while matching to beats of a song.	
Suggested non-formal activity to support learning: Learners to make different turns during singing games**.**	**Suggested assessment:** Oral, observation, written work, portfolio, peer assessment and self assessment.
Suggested resources: paper cut outs, tactile clock face, clock face.	

ASSESSMENT RUBRIC

Exceeding Expectations	Meetings Expectations	Approaching Expectations	Below Expectations
The learner is able to demonstrate a clockwise and anti-clockwise turn in the environment and even turn others and other objects.	The learner is able to demonstrate a clockwise and anti-clockwise turn in the environment.	The learner confuses between clockwise and anti-clockwise turn in the environment.	The Learner is able to demonstrate clockwise and anti-clockwise turn only with assistance in the environment.
The learner is able to demonstrate a quarter turn, half turn and full turn in the environment and even turn others and objects.	The learner is able to demonstrate a quarter turn, half turn and full turn in the environment correctly.	The learner is able to demonstrate a quarter turn, half turn and full turn in the environment but confuses a half turn and a quarter turn.	The learner is able to turn with assistance only.
The learner is able to identify quarter, half and full turn in the environment and even relate to compass direction	The learner is able to identify quarter half and full turn in the environment correctly.	The learner is able to identify full turn but confuses quarter and half in the environment.	The learner is able to identify a turn but unable to specify the type of turn in the environment.
Learner is able to create and solve problems involving position and direction using digital devices with assistive software for learning and enjoyment.	Learner is able to use appropriate digital device with assistive software for playing digital games involving position and direction.	Learner is able to play part of the game involving position and direction using digital devices with assistive software.	Learner is able to access the game involving position and direction using digital devices with assistive software.

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Question
	3.2 ANGLES (4 Lessons)	By the end of the sub-strand, the learner should be able to: a) identify angles in the environment, b) identify different types of angles in the environment, c) compare angles in real life situations, d) use appropriate digital devices with assistive software for learning and enjoyment, e) appreciate use of angles in real life situations.	• in pairs, groups or individually, learners with low vision to identify angles in the environment while learners with blindness could be paired with sighted peers and given verbal cues as they manipulate the environment to identify angles. • in pairs, groups or individually, learners with low vision could be guided to identify right angles in the environment while learners with blindness to do so by manipulating models and tactile figures.. • in pairs, groups or individually, learners with low vision could be guided to identify acute angles in the environment while learners with blindness to do so by	1. Where can you find angles in the environment?

			manipulating models and tactile figures... • in pairs, groups or individually, learners with low vision could be guided to identify obtuse angles in the environment while learners with blindness to do so by manipulating models and tactile figures. • in pairs, groups or individually, learners with low vision to identify reflex angles in the environment while learners with blindness to do so by manipulating models and tactile figures. • in pairs, groups or individually, learners with low vision to compare angles using a right angle while learners with blindness to do so by manipulating models and tactile figures • in pairs, groups or individually, learners could play digital	

			games involving angles. • learners with blindness could use appropriate digital devices with assistive software such as voice output, learners with low vision could use appropriate digital devices with assistive software that adjusts color contrast and font size for learning and enjoyment.	

Core Competencies to be developed:
- Communication and collaboration: This is developed as learners compare angles.
- Learning to learn: This is developed as learners identify angles.
- Digital literacy: This is developed as learners play digital games.

Link to Pertinent and Contemporary Issues (PCI's): • Environmental Education: This is developed as learners plant flowers and trees to demonstrate angles and shapes. • Social cohesion: This is developed as learners work in groups.	**Link to Values:** • Responsibility: This is developed as learners strive to make accurate measurements.
Link to other learning areas: • Art: This occurs as learners draw, model and construct angles. • Agriculture: This occurs as learners plant seeds at angles and in parallel rows.	**Suggested Community Service Learning Activities:** • Learners to assist in making of furniture and house construction in the community.
Suggested non-formal activity to support learning: Learners to make toys of cars or dolls during play time. Learners make different shapes for use during play time.	**Suggested assessment:** Oral, written, observation, portfolio, peer and self assessment.

Suggested resources:	
Clay, plasticine, paper cut outs, pair of scissors, tactile angles, models of angles, toys, geometrical shapes models of different angles.	

ASSESSMENT RUBRIC

Exceeding Expectation	Meetings Expectation	Approaching Expectation	Below Expectation
The learner is able to identify angles in the environment and group them according to their names.	The learner is able to identify angles in the environment.	The learner identifies only a few angles in the environment.	The learner can only identify shapes in the environment.
The learner is able to identify and model right angles.	The learner is able to identify right angles.	The learner is able to identify models of right angles but cannot distinguish it on different objects, e.g. Tables, chairs.	The learner is able to identify the shapes but is unable to identify the right angle.
The learner is able to identify and model acute angles.	The learner is able to identify acute angles.	The learner is able to identify models of acute angles but cannot distinguish it on different objects, e.g. Tables, chairs.	The learner is able to identify the shapes but is unable to identify the acute angle.
The learner is able to identify and model obtuse angles.	The learner is able to identify obtuse angles correctly.	The learner is able to identify models of obtuse angles but cannot distinguish it on different objects, e.g. Tables, chairs.	The learner is able to identify the shapes but is unable to identify the obtuse angle.
The learner is able to identify and model reflex angles.	The learner is able to identify reflex angles.	The learner is able to identify models of reflex angles but cannot distinguish it on different objects, e.g. Tables, chairs.	The learner is able to identify the shapes but is unable to identify the reflex angle.

The learner is able to compare angles and even draw and label them.	The learner is able to compare angles.	The learner is able to compare some angles.	The learner is able to manipulate different angles but is not able to name them.
Learner is able to create and solve problems involving angles using digital devices with assistive software for learning and enjoyment.	Learner is able to use appropriate digital device with assistive software correctly for playing digital games involving angles.	Learner is able to play part of the game involving angles using digital devices with assistive software.	Learner is able to access the game involving angles using digital devices with assistive software.

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Question
	3.3 2-Dimensional SHAPES (6 Lessons)	By the end of the sub-strand, the learner should be able to: a) identify different shapes in the environment, b) identify line of symmetry practically in real life, c) make patterns using different shapes in real life situations, d) identify properties of 2-dimensional shapes in the environment, e) use appropriate digital device with assistive software for learning and enjoyment, f) appreciate using shapes in real life situations.	• in pairs, groups or individually, learners with low vision to identify shapes in the environment while learners with blindness to do so by being provided with concrete objects of different textures, shape and size to manipulate and be given verbal description of the 2-D shapes. • in pairs, groups or individually, learners with low vision to identify line of symmetry by folding the shape into two equal parts and identify the fold line as line of symmetry while learners with blindness do so by using hard materials such as manila paper to fold and emboss the line formed using twine thread. • in pairs, groups or individually, learners with low vision could be	1. How can you identify a 2-dimensional shape? 2. How can you make patterns using shapes?

			guided to make patterns using squares, rectangles and triangles that have different colours while learners with blindness to do so using cut outs of different textures and shapes.	
			• in pairs, groups or individually, learners to identify properties of a square. Provide realia of different square shapes for learners to manipulate for familiarisation.	
			• in pairs, groups or individually, learners to identify properties of a square. Provide realia of different rectangle shapes for learners to manipulate for familiarisation.	
			• in pairs, groups or individually, learners to identify properties of a square. Provide realia of different triangle shapes for learners to manipulate for familiarisation.	

			• in pairs, groups or individually, learners to play digital games involving 2-D shapes. Learners with blindness could use appropriate digital devices with assistive software such as voice output. Learners with low vision could use appropriate devices with assistive software that adjusts colour contrast and font size for learning and enjoyment.	

Core Competencies to be developed:
- Communication and collaboration: This is developed as learners identify different shapes.
- Learning to learn: This is developed as learners identify properties of different shapes.
- Digital literacy: This is developed as learners play digital games involving 2 dimensional shapes.

Link to Pertinent and Contemporary Issues (PCIs):	**Link to Values:**
• Financial literacy: This is developed as learners make patterns for commercial use. • Patriotism: This is developed as learners make shapes of Kenya national flag by arranging themselves in rows and columns.	• Responsibility as learners take care of patterns made. • Respect: as learners talk about patterns made by others.
Link to other learning areas:	**Suggested community service Learning:**
• Art and craft: This occurs as learners identify objects of different shapes in the environment for making structures like animal cages. • Languages: is developed as learners participate in discussions.	• Learners may help to identify 2-Dimensional shapes in the environment like in animal cages.
Suggested non-formal activity to support learning: Learner to make different shapes for use during play.	**Suggested assessment:** Written, oral, observation, self and peer assessment.
Suggested resources:	

Cutout of rectangles circles and triangles, geometrical shapes of different sizes.

ASSESSMENT RUBRIC

Exceeding Expectations	Meeting Expectations	Approaching Expectations	Below Expectations
The learner is able to identify different shapes in the environment and arrange them according to their properties.	The learner is able to identify different shapes in the environment.	The learner takes time to distinguish between a rectangle and a square shape in the environment.	The learner is able to name and manipulate some shapes in the environment.
The learner is able to identify lines of symmetry on even complicated objects that cannot be folded.	The learner is able to identify lines of symmetry.	The learner is able to identify lines of symmetry on regular objects.	The learner makes errors in identifying lines of symmetry.
The learner is able to make patterns using different shapes and even makes models of the patterns.	The learner is able to make patterns using different shapes.	The learner is able to make patterns using only two types of shapes.	The learner is able to make pattern using only one shape.
The learner is able to identify properties of squares and even draw and make cut outs.	The learner is able to identify properties of square.	The learner can only identify a few of the properties of squares.	The learner is able to manipulate square.
The learner is able to identify properties of rectangle and even draw and make cut outs.	The learner is able to identify properties of rectangle.	The learner can only identify a few of the properties of rectangle.	The learner is able to manipulate rectangles.
The learner is able to identify properties of triangle and even draw and make cut outs.	The learner is able to identify properties of triangle.	The learner can only identify a few of the properties of triangle.	The learner is able to manipulate triangle.
Learner is able to create and solve problems involving 2-D shapes using digital devices with assistive software for learning and enjoyment.	Learner is able to use appropriate digital device with assistive software correctly for playing digital games involving 2-D shapes.	Learner is able to play part of the game involving 2-D shapes using digital devices with assistive software.	Learner is able to access the game involving 2-D shapes using digital devices with assistive software.

Strand	Sub – Stand	Suggested Learning Outcome	Suggested Learning Experiences	Key Inquiry Questions
4.0 DATA HANDLING	**4.1 DATA (8 Lessons)**	By the end of the sub-strand, the learner should be able to: a) represent data using frequency tables in different situations, b) work-out questions involving frequency tables in real life situations, c) identify where frequency tables are used in real life situations, d) use appropriate digital device with assistive software for learning and enjoyment, e) appreciate use of frequency tables in representing data in real life situations.	• in groups, learners with visual impairment to collect and record data by first being guided to record using tally marks. • in pairs, groups or individually, learners to represent data using frequency tables by first manipulating samples of frequency tables and being guided on how to prepare a frequency table from data collected. • in pairs, groups or individually, learners with low vision to interpret frequency tables with appropriate colours contrast and font size while learners with blindness do so using a tactile frequency table that is clearly labeled. • in pairs, groups or individually, learners to work out questions	Why would you represent data?

			involving frequency tables.
			• in pairs, groups or individually, learners to engage more on data collection.
			• in pairs, groups or individually, learners to play digital games involving data. Learners with blindness could use appropriate digital devices with assistive software such as voice output. Learners with low vision could use appropriate devices with assistive software that adjusts colour contrast and font size for learning and enjoyment.

Core Competencies to be developed:
- Communication and collaboration: This is developed as learners collect data.
- Learning to learn: This is developed as learners identify how to represent data.
- Digital literacy: This is developed as learners play digital games.

Link to Pertinent and Contemporary Issues (PCIs):	**Link to Values:**
• Health education: This is developed as learners collect data on patients.	• Respect: This is developed as learners collect data in groups.
• Environmental education: This is developed in as learners collect data on environmental issues e.g. number of trees in schools.	• Responsibility: This is developed as learners collect data.

Link to other learning areas:	Suggested community service Learning:
• Languages: This occurs as learners are involved in group discussions. • Agriculture and Science: This occurs as learners collect data.	Learners may help in collecting data on attendance or number of items in community functions.
Suggested non-formal activity to support learning: Learners to represent different number of items using sticks as tallies practically	**Suggested assessment:** Oral, written, observation, self and peer assessment.
Suggested resources: Tactile data from different sources, sticks, glue, pair of scissors, wire board.	

ASSESSMENT RUBRIC

Exceeding Expectations	Meetings Expectations	Approaching Expectations	Below Expectations
The learner is able to represent more than one data using frequency tables.	The learner is able to represent data using frequency tables.	The learner is able to represent data but leaves out some information.	The learner is able to represent data orally.
The learner is able to prepare and interpret frequency tables.	The learner is able to interpret frequency tables.	The learner is able to interpret vertical axis of the frequency table only.	The learner is able to read information on frequency tables without interpretation.
Learner is able to create and solve problems involving data using digital devices with assistive software for learning and enjoyment.	Learner is able to use appropriate digital device with assistive software correctly for playing digital games involving data.	Learner is able to play part of the game involving data using digital devices with assistive software.	Learner is able to access the game involving data using digital devices with assistive software.

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Question
5.0 ALGEBRA	5.1 USE OF LETTERS (6 Lessons)	By the end of the sub-strand, the learner should be able to: a) represent the unknown using letters in real life situations, b) form algebraic expressions in real life situations, c) simplify algebraic expression in real life situations, d) use appropriate digital devices with assistive software for learning and enjoyment, e) appreciate the use of algebraic expressions.	• in pairs, groups or individually, learners with low vision to represent the unknown using letters by being guided to align algebraic expressions in their square exercise books with bold rule lines horizontally while learners with blindness do so by first being guided to align algebraic expressions horizontally and representing them on the types and Taylor frames, cube and cubarithym boards. • in pairs, groups or individually, learners to form algebraic expressions. • in pairs, groups or individually, learners to simplify algebraic expressions by first providing work-cards with algebraic expressions both in Braille and with appropriate colour contrast and font size. • in pairs, groups or individually, learners to play digital games involving	1. How can you simplify algebraic expressions?

			algebra. Learners with blindness could use appropriate digital devices with assistive software such as voice output. • learners with low vision could use appropriate devices with assistive software that adjusts colour contrast and font size for learning and enjoyment.	

Core Competencies to be developed:
- Learning to learn: This is developed as learners represent the unknown using letters.
- Communication and collaboration: This is developed as learners form algebraic expressions.
- Digital literacy: This is developed as learners use appropriate digital devices with assistive software to play digital games.

Link to Pertinent and Contemporary issues PCIs):	**Link to Values:**
• Self- esteem: This is developed as learners represent the unknown using letters in real life situations. • Social cohesion: This is developed as learners work in pairs or groups. • Environmental education: This is developed as learners group objects or litter from the environment using letters.	• Responsibility: This is developed as learners take care of materials used. • Love: This is developed as learners work in groups.
Link to other learning areas:	**Suggested Community Service Learning:**
• Languages: This occurs as learners represent the unknown using letters. • Science and Technology: This is developed as learners balance objects	• Learners may assist in sorting litter in the community.
Suggested non-formal activity to support learning;	**Suggested assessment:**
Learners to represent items using letters during play.	Oral, written, observation, self and peer assessment**.**

Suggested resources;
Information from different sources**,** types and Taylor frames, cube and cubarythym boards.

ASSESSMENT RUBRICS

Exceeding Expectations	Meeting Expectations	Approaching Expectations	Below Expectations
The learner is able to represent and interpret unknown using letters from a text.	The learner is able to represent unknown using letters.	The learner is able to represent unknown using letters but mixes up numbers and letters.	The learner is able to name letters but unable to match the letters to objects they represent.
The learner is able to form algebraic expressions involving more than one unknown.	The learner is able to form algebraic expressions.	The learner is able to form algebraic expressions but mixes up the letters used to represent the unknown.	The learner is able to name letters but unable to form the algebraic expressions.
The learner is able to simplify and solve algebraic expressions.	The learner is able to simplify algebraic expressions.	The learner is able to simplify algebraic expressions but has challenges in collecting like terms.	The learner is able to collect like letters orally but is unable to represent them with numbers.
Learner is able to create and solve problems involving algebra using digital devices with assistive software for learning and enjoyment.	Learner is able to use appropriate digital device with assistive software correctly for playing digital games involving algebra.	Learner is able to play part of the game involving algebra using digital devices with assistive software.	Learner is able to access the game involving algebra using digital devices with assistive software.

SUGGESTED RESOURCES

STRAND	SUB- STRAND	SUGGESTED RESOURCES
NUMBERS	Whole numbers	Place value apparatus, number charts, number cards, multiplication table
	Addition	Place value chart, Abacus
	Subtraction	Place value chart, Abacus
	Multiplication	Multiplication tables
	Division	Multiplication tables
	Fractions	Equivalent fraction board, circular and rectangular cut outs, counters, clock face
	Decimals	100 square grid, rectangular paper strips, Place value charts, number cards
MEASUREMENT	Length	Metre rule, 1metre sticks, tape measure
	Area	Square cut outs, paper cut outs
	Mass	1kg mass, soil or sand, manual or electronic weighing machine, beam balance
	Volume	Cubes, cubarithm boards
	Capacity	1 litre containers, containers of different sizes, water, sand, soil
	Time	Analogue and digital clocks, digital watches, am or pm chart
	Money	Real or imitation of money, price list
GEOMETRY	Position and direction	Clock face
	Angles	Representation of different angles
	2-D shapes	Cut outs of rectangles, circles, and triangles of different sizes
DATA HANDLING	Data	Data from different sources
ALGEBRA	Use of letters	Information from different sources

NOTE: The following ICT devices may be used in the teaching or learning of mathematics at this level:
Learner digital devices (LDD), Teacher digital devices (TDD), Mobile phones, Digital clocks, Television sets, Videos, Cameras, Projectors, Radios, DVD players, CD's, Scanners, Internet among others.

SUGGESTED NON-FORMAL ACTIVITIES

STRAND	SUB-STRAND	SUGGESTED NON-FORMAL ACTIVITIES
Numbers	Whole Numbers	Learners to play number games and count items in the environment.
	Addition	Learners to work out total scores in a game.
	Subtraction	Learners to work out the difference in scores for various teams during play.
	Multiplication	Learners to work out the number of flowers in a flower bed by considering the number of rows and columns.
	Division	Learners to distribute themselves into teams during play activities e.g. football.
	Fractions	Learners to share items during play.
	Decimals	Learners to represent decimals using paper cut outs during play.
Measurement	Length	Learners to mark play areas.
	Area	Learners to mark their areas of operation in different games e.g. netball.
	Mass	Learners to play games using a sea saw.
	Volume	Learners to pile up same items during play.
	Capacity	Learners to fill and empty containers during play.
	Time	Learners to observe shadows and relate them to different times of the day.
	Money	Learners to practise shopping activities during play.
Geometry	Position and Direction	Learners to make different turns during singing games.
	Angles	Learners to make toys of cars or dolls during play.
	2-D Shapes	Learners to make different shapes for use during play.
Data Handling	Data	Learners to represent different number of items using sticks as tallies practically.
Algebra	Use of letters	Learners to represent items using letters during play.

SCIENCE AND TECHNOLOGY

Essence Statement

Science and Technology is a learning area which engages in the human pursuit to understand the relationships between the living and non-living universe. Science is a discipline that deals with explanations and predictions about nature and the universe while Technology is the application of science to create devices that can solve problems and do tasks.

The achievement of Vision 2030 greatly depends on Science, Technology and Innovation. Sessional Paper No.1 of 2005 highlights the fact that for a breakthrough towards industrialisation, achievement of the desired economic growth targets and social development, a high priority needs to be placed on the development of human capital through education and training by promoting the teaching of sciences and information technology. This is also highlighted in the Sessional Paper 14, 2012 which stresses the need for sustainable basic and higher education, with an emphasis on Science, Technology and Innovation (ST&I). This makes it necessary for Science and Technology to be taught in Upper Primary Education level.

This learning area builds on the competencies introduced at the lower primary under the learning area of Environmental Activities and equips the learner with pre-requisite skills which are required in Integrated Science and Pre-technical and Pre-career studies at the lower secondary level. These enable learners prepare for Science, Technology, Engineering and Mathematics (STEM) in subsequent levels of education cycle. Inquiry based learning (IBL), Project based learning (PBL), Problem based learning (PBL) and Social Scientific Issue learning (SSI) approaches will be employed throughout the learning experiences in this area as advocated for by John Dewey's social constructivist theory which emphasizes the learner should be given an opportunity to learn through hands-on activities. Engineering design shall be used as a pedagogical strategy to bridge science concepts with other learning areas to solve simple open-ended problems, develop creative thinking and analytical skills among learners, make decisions, and consider alternative solutions to address a variety of situations.

General Learning Outcomes

The learning area will support the following learning outcomes:

- Apply logical thinking appropriately in self-expression
- Communicate effectively in diverse contexts
- Apply critical thinking in problem solving
- Demonstrate imagination and creativity
- Demonstrate learning to learn
- Conserve the environment effectively for learning and sustainable development.
- Apply digital literacy skills appropriately for communication and learning in day to day life.

Strands

1. Living things
2. Environment
3. Digital Technology
4. Matter
5. Force and Energy
6. Earth and Space

Strand	Sub-Strand Sub-Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Questions
Living things	**1.1 Plants** **1.1.1 Characteristics of plants.** **(5 lessons)**	By the end of the sub-sub strand the learner should be able to: a) Identify living and non-living things in the environment, b) identify the characteristics of plants as living things, c) observe and manipulate characteristics of plants in the environment, d) demonstrate responsibility while handling plant	• Learners with visual impairment could take a walk in the school compound and the neighbourhood to observe, manipulate, discuss and record evidence that plants: feed, grow, breath, reproduce, remove waste, respond to changes in their environment and die. • Learners with blindness could be guided to manipulate; plants of different sizes to understand growth, withered plants to understand that plants feed	1. Why are plants living things?

		materials in the community, e) grow plants in the locality,	and die, a stem of a plant that have exuded a sticky substance to understand that plant remove waste, a plant that has flowers and fruits to show that plants reproduce. Learners with blindness to feel plants under different environmental conditions for example, when its windy learners will feel plants swaying. Guide these learners to sit under a shade of a tree, give verbal description that fresh air experienced is as a result of a tree breathing out oxygen during the day. • Learners with visual impairment use audio visual digital devices to	

			observe, listen, identify, discuss and record evidence that plants: feed, grow, breath reproduce, remove waste, respond to changes in their environment and die. Learners with blindness could be given verbal descriptions of the videos that are not clear.	
			• Learners with visual impairment sing songs, recite poems and play games about the characteristics of plants. Learners with blindness could be guided and oriented to the area of play.	
			• In groups, learners with visual impairment could be guided to observe and	

			discuss safety precautions when handling plant materials like practise use of gloves, forceps, goggles, tongs, and overcoats. **Project:** With the help of parents or guardians learners to grow seeds, observe as they grow and record changes taking place as the plant grow to maturity. **Hint**: learners with blindness can use a string, hand span, tactile rulers to measure different heights of the growing plant. For these learners to use a string they tie a knot to indicate the height after every growth.	

Core Competencies to be Developed:

Critical Thinking and Problem Solving: This is achieved as learners identify characteristics of plants.

Communication and Collaboration: This is achieved as learners work in groups and share information.

Digital Literacy: This is developed as learners use audio visual devices to listen and observe the characteristics of plants.

Pertinent and Contemporary Issues: **Education for Sustainable Development**-Environmental sustainability: This is developed as learners learn about characteristics of plants. Disaster risk reduction: This is achieved while learners handle different types of plants which are poisonous and dangerous.	**Values:** **Responsibility:** This is developed as learners work in groups and care for plants. **Love** for one another as learners who are sighted support learners with blindness. **Respect** as learners respect one another opinion as they work in groups.
Link to other Learning Areas: **Agriculture:** as learners grow plants in their community. **Mathematics**: as learners measure different heights of a growing plant. **Religious Education**: as learners take care of growing plant.	**Suggested Community Service Learning Activities:** Learners could grow plants, identify local names of different plants and take care of them in the community.
Non Formal Activities that Support Learning: Learners could participate in watering plants, weeding, reciting poems and singing songs about plants.	**Suggested modes of Assessment:** Observation, oral questions, written questions, project.
Suggested Resources: plants, gloves, goggles, tongs, overcoats, audio visual devices**,** strings, tactile rulers, seeds, watering cans, water forceps.	

ASSESSMENT RUBRICS			
Exceeding Expectations	**Meeting Expectations**	**Approaching Expectations**	**Below Expectations**
The learner is able to identify the characteristics of plants that make them living things and explain.	The learner is able to identify the characteristics of plants that make them living things.	The learner is able to identify at least five characteristics of plants that make them living things.	The learner has difficulties in identifying the characteristics of plants that make them living things.
The learner is able to demonstrate responsibility while handling plant materials in their immediate environment and further uses the right farm tools.	The learner is able to demonstrate responsibility while handling plant materials in their immediate environment.	The learner is able to use two protective gear while handling plant materials in their immediate environment.	The learner has difficulties in showing responsibility while handling plant materials in their immediate environment.
The learner cares for and measures the height to establish growth in plant and relates the height of the plant with growth.	Cares for and measures the height of the plant to establish growth.	Care for and but faces challenges in measuring the height to establish growth.	Has a difficulty in caring for and establishing growth.

Strand	Sub-Strand Sub-Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Questions
1.0 Living things	1.2 Animals 1.2.1 Characteristics of animals. (8 lessons)	By the end of the sub-sub strand the learner should be able to: a) Identify the characteristics of animals as living things. b) Observe and explore characteristics of animals in their environment. c) Distinguish between vertebrate and invertebrate. d) Demonstrate responsibility while handling animals in the environment.	• In pairs, learners with visual impairment to discuss characteristics of animals as living things. • Learners with visual impairment could take a walk in the school compound and the neighbourhood to observe, manipulate and record evidence that animals: move, feed, grow, reproduce, remove waste, respond to changes in their environment and die. • Learners with blindness to be guided by an adult to touch some friendly animals of different sizes to understand that they grow	1. Why are animals living things? 2. How do animals differ from each other based on what they feed on?

		e) Appreciate animals as living things in the environment.	and reproduce, to smell and touch waste of some animals, they feed some animals like chicken. Give verbal description on how different animals respond to changes in their environment for example animals under a tree when it is hot, guide learners to know that the meat they eat is from an animal that has been slaughtered hence died. • In groups, learners could be guided to use audio visual devices to observe, listen, discuss and record evidence that animals: move, feed, grow, reproduce, remove waste, respond to changes in their	

			environment and die. Learners with visual impairment to be given verbal description where the video is not clear.	
			• In groups, learners discuss the main difference between vertebrate and invertebrate	
			• Learners with visual impairment could be guided to sing songs, recite poems and play games about animals. Learners with blindness could be given orientation to the games and area of play.	
			• In groups, learners could be guided to observe safety precautions when interacting with animals	

			like keeping distance from animals, use of protective clothing and use of handling equipment and materials. **Project:** With the help of parents or guardians, learners make a portfolio of vertebrate and invertebrate animals.	

Core Competencies to be developed:

Critical thinking and Problem Solving: This is developed as learners identify animals.

Communication and Collaboration: This is developed as learners work in groups and share information.

Digital Literacy: This is developed as learners use digital devices to observe and listen to audio recording about animals.

PCI's:	Values:
Animal welfare: This is developed as learners take care of animals. Disaster risk reduction: This is developed as learners ensure their safety when interacting with animals and avoiding dangerous ones.	**Responsibility:** This is developed as learners take care of animals. **Respect:** This is developed as learners work in groups with harmony. **Love:** Learners develop love for animals as they learn about them.
Link to Other Learning Areas: **Agriculture:** as learners take care of animals.	**Suggested Community Service Learning Activities:**

Mathematics: as learners count and group animals.	Learners could help parents take care of animals back at home.
Home Science: as learners wash hands and change clothes after interacting with animals.	
Non Formal Activities that Support Learning:	**Suggested Modes of Assessment:**
Learners play games, recite poems and sing songs about animals during free time.	Observation, oral questions, written questions, projects.
Suggested Resources:	
Realia, models, charts, audio visual aids, school farms, crayons, clay, plasticine.	

ASSESSMENT RUBRICS

Exceeding Expectations	Meeting Expectations	Approaching Expectations	Below Expectations
The learner is able to identify the characteristics of animals and explain.	The learner is able to identify the characteristics of animals.	The learner is able to identify at least five the characteristics of animals	The learner has difficulties in identifying the characteristics of animals.
The learner is able to distinguish between vertebrate and invertebrate and cite examples of each.	The learner is able to distinguish between vertebrate and invertebrate.	The learner is able to identify vertebrate but has challenge in identifying invertebrate.	The learner has difficulties in distinguishing the

			vertebrate from invertebrate.
The learner is able to demonstrate responsibility while interacting with animals and show control over them.	The learner is able demonstrate responsibility while interacting with animals.	The learner is able to demonstrate limited care while interacting with them.	The learner has difficulties caring for the animals.

Strand	Sub-strand	Specific learning outcomes	Suggested learning experiences	Key inquiry question(s)
1.0 living things	1.2. human body 1.3.1 digestive 12 lessons	By the end of the sub-strand, the learner should be able to: a) Identify parts of the digestive systems of human beings for learning. b) Describe functions of different parts of the digestive system of a human being for healthy living. c) Identify the four types of teeth for learning. d) Develop curiosity about taking care of the teeth for personal hygiene. e) Model the four different types of	• In groups, learners are guided to use digital devices, tactile diagrams, model and visual aids to observe and identify parts of the digestive system for example mouth, liver, oesophagus, stomach, small intestine, rectum, anus and pancreas. Learners with blindness to be guided to tactually explore the tactile diagram. • Learners with blindness could be given digital devices with appropriate software to learn about parts and the functions of the digestive system. • In groups, learners are	• How are different parts of digestive system suited to their functions? • Why do teeth differ?

			teeth for enjoyment. f) Appreciate the importance of taking care of teeth for health and hygiene.	guided to identify and discuss the functions of the four types of teeth (incisors, canines, pre-molars and molars). • In groups, learners are guided to demonstrate the use of different types of teeth using locally available food items (sugarcane, carrots, and fruits tubers). • In groups, learners with low vision are guided to model using locally available materials and draw the four types of teeth. • Learner with blindness to tactually explore models of four types of teeth and model them using locally available materials.	

Core competencies to be developed:

- **Critical thinking and problem solving:** This is developed as learners identify different parts of the digestive system and four types of teeth.
- **Communication and collaboration:** This is developed as learners work together and share information**.**
- **Digital devices:** This is developed as learners use digital devices to observe and listen to functions of parts of the digestive system.
- **Imagination and creativity:** This is developed as learner model different types of teeth using locally available materials.

PCI's:	**Values:**
- Environmental sustainability as they collect for sustainable development; Animal welfare: This is developed as learners take care of animals. - Disaster Risk Reduction. This is observed as learners observe safety as they work with animals.	**Responsibility-**this is developed as learners take care of models. **Respect-** This is developed as they respect one another as while working in groups.
Links to other learning areas: - Home science: Developed as learners observe personal hygiene through taking care of their teeth. - Creative Arts; as learners model types of teeth.	**Suggested community service learning**: Learners visit nearby health care facility to learn about care of teeth.
Suggested non-formal activities to support learning: learners sing songs about digestive system mentioning the follow of food from one part to another.	**Suggested modes of assessment:** Oral or signed questions, observation, self and peer assessment.
Suggested learning resources: models, tactile diagram of digestive system of human being, digital devices.	

Assessment rubric

Exceeding expectations	Meeting expectations	Approaching expectations	Below expectations
Learner is able to identify parts of the digestive system and draw/model the parts of the digestive system.	Learner is able to identify parts of the digestive system.	Learner is able to identify four parts of the digestive system.	Learner can only identify one part of the digestive system.
Learner is able to describe the functions of the digestive system and give examples.	Learner is able to describe the functions of the digestive system.	Learner is able to describe functions of four parts of the digestive system.	Learner is able to describe functions of only one part of the digestive system.
Learner is able to model the four different types of teeth and name them.	Learner is able to model the four different types of teeth.	Learner is able to model the two different types of teeth.	Learner has difficulties modelling any type of teeth.
Learner is able to take care of his or her teeth and identify variety of items used for cleaning and strengthening teeth.	Learner is able to take care of his or her teeth.	Learner is able to take clean of teeth, but has difficulty in eating food that strengthen teeth.	Learner has difficulties taking care of teeth.

Strand	Sub-Strand Sub-Sub strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Questions
Environment	**1.3 Air pollution** (19 lessons)	By the end of the sub-sub strand the learner should be able to: a) define the terms; pollution and air pollution in their environment, b) identify air pollutants in his or her environment, c) distinguish between clean and polluted air in his or her environment, d) identify effects of air pollution on living things in the immediate environment, e) identify ways of reducing air pollution in the environment,	• In groups, with learners visual impairment could be guided to discuss the meaning of the term s Learners with visual impairment could be guided as they use audio visual devices and tactual aids to explore the meaning of "pollution" and "air pollution". Learners with blindness to be guided to touch and use perfume cans to understand the	1. How is air polluted? 2. Why is air pollution reduced? 3. How can you reduce air pollution?

		f) make a functional air pollution detector for learning, g) make a functional dust mask using locally available materials for learning, h) appreciate the importance of clean air in his/her environment for personal wellbeing.	meaning of air pollution. • In groups, learners with visual impairment could take a walk around the school and neighbourhood to observe, feel, identify and record air pollutants like bad smell, dust, and smoke. (Learners with blindness to be grouped with learners who are low vision). Learners with blindness to be guided accompanied with verbal descriptions of what is observed.	

			• Learners to be guided as they use audio visual devices and tactile aids to identify and record air pollutants. Videos that are not clear should be verbally described. • In groups, learners with visual impairment take a walk around the school and neighbourhood to observe, feel and identify clean and polluted air like in toilets, dusty area, smoky areas, damp sites and decomposing matter. (Learners with blindness to be	

			grouped with learners who are blind).	
			• Learners with blindness to be given verbal descriptions of what is observed for example, names of the decomposing materials and source of the smoke.	
			• Learners with visual impairment could be guided to use audio visual devices to differentiate between clean and polluted air.	
			• Learners with visual impairment could be guided to walk to the kitchen to feel the effect of smoke on	

			their eyes and breathing.	
			• Learners with visual impairment could be presented with two leaves, a clean leaf and a dusted leaf to feel and record the effects of dust on plants.	
			• In groups, learners with visual impairment to use audio visual aids and digital devices to identify the effects of air pollution on living things.	
			• Learners with blindness could be given verbal	

			descriptions of the effects.	
			• Learners with visual impairment could be guided to identify and discuss ways of reducing air pollution by proper disposal of waste, use of ventilation, improved pit latrines, sprinkling ash in pit latrines and sprinkling water on dusty grounds.	
			• In groups, learners with visual impairment could be guided to observe safety precautions when working in air polluted environment like practise use of	

			dust masks, goggles, hats, gumboots and overoll.	
			• Leaners with visual impairment could be guided to sing songs, recite poems, role play and play games about air pollutions.	
			• Learners with blindness could be given verbal descriptions on role playing and orientation to the area of games.	
			Project 1: In groups, learners could be guided to make a simple air pollution detector using a clean white piece of cloth.	

			Project 2: Learners could be guided to make a functional dust mask using locally available materials. • Learners with blindness to be grouped with those who are low vision to carry out projects activities.	

Core Competencies to be Developed:

Citizenship: This is achieved as learners reduce air pollution in the environment.

Digital Literacy: This is achieved as learners use digital devices to get information about air pollution.

Critical Thinking and Problem Solving: This is achieved as learners apply different ways to reduce air pollution.

PCI's:	**Values:**
Environmental Conservation: This is achieved as learners reduce air pollution in the environment. **Safety and Security Education:** This is achieved as learners make and use the dust masks. **Health Education:** Life style diseases: This is achieved as learners identify health problems associated with air pollution.	**Responsibility:** This is developed as learners observer safety precautions when working in an air polluted environment. **Love:** this is developed as learners work together in groups.

Link to Other Learning Areas:	Suggested Community Service Learning Activities:
Agriculture: Use of compost pits to dispose waste matter which turns into manure. **Home Science:** Use of dust masks when cleaning the compound. **Mathematics:** as learners take measurements of materials for making pollution detectors and functional dust masks.	Learners could plant trees and grass to reduce dust and practice proper disposal of waste at home and their community.

Suggested Non-Formal Activity to Support Learning:	Suggested Modes of Assessment:
Learners could sprinkle water on dusty grounds when sweeping, cleaning latrines and toilets.	Projects, observation, oral questions, written questions, self- assessment and peer assessment.

Suggested Resources:

Water, brooms, containers, ash, dust mask, goggles, hat and gumboots, dust coat, kitchen, audio visual devices, pictures, posters, models, realia.

ASSESSMENT RUBRICS

Exceeding Expectations	Meeting Expectations	Approaching Expectations	Below Expectations
The learner is able to define the terms; pollution and air pollution and give examples.	The learner is able to define the terms; pollution and air pollution.	The learner is able to define the terms; pollution and has difficulties in defining air pollution	The learner has difficulties in defining the terms; pollution and air pollution.
The learner is able to identify air pollutants in the environment and explain their sources.	The learner is able to identify air pollutants in the environment.	The learner is able to identify few air pollutants in the environment	The learner has difficulties identifying air pollutants in the environment.

The learner is able to distinguish between clean and polluted air in the environment and explain the causes of air pollution.	The learner is able to distinguish between clean and polluted air in the environment.	The learner is able to explain clean air but has difficulties explaining polluted air in the environment	The learner has difficulties distinguishing between clean and polluted air in the environment.
The learner is able to identify effects of air pollution on living things and how they can be prevented.	The learner is able to identify effects of air pollution on living things.	The learner is able to identify some effects of air pollution on living things with support.	The learner has difficulties in identifying effects of air pollution on living things.
The learner is able to identify ways of reducing air pollution and gives its benefits.	The learner is able to identify ways of reducing air pollution.	The learner is able to identify some ways of reducing air pollution	The learner has difficulties in identifying ways of reducing air pollution.
The learner is able to make a functional pollution detector and dust mask using locally available materials and explain their use.	The learner is able to make a functional pollution detector and dust mask using locally available materials.	The learner is able to make incomplete pollution detector and dust mask using locally available materials with support.	The learner has difficulties in assembling materials for making a functional pollution detector and dust mask using locally available materials.

Strand	Sub Strand Sub-Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Questions
2.0 Environment.	2.2Water pollution (11 lessons)	By the end of the sub-sub strand the learner should be able to: a) define the term water pollution for learning, b) identify water pollutants in his or her environment, c) distinguish between clean and polluted water in his or her environment, d) identify effects of water pollution on living things, e) identify ways of reducing water pollution in the environment, f) make a functional water filter using locally	• In groups, learners with visual impairment could be guided to discuss the meaning of the term water pollution. • Learners with visual impairment could be guided to use audio visual digital devices to explore the meaning of the term water pollution. Learners with blindness to feel water with paper, sand, sticks, dry leaves and other impurities to understand meaning of water pollution. • In groups, learners with visual impairment could	1. How is water polluted? 2. Why is water pollution reduced? 3. How can water pollution be reduced?

		available materials for learning, g) appreciate the importance of clean water in his or her environment.	take a walk around the school and neighbourhood to observe, feel, identify and record water pollutants. • Learners with blindness to be grouped with learners who have low vision. These Learners to be given verbal descriptions on water pollutants identified in their neighbourhood. • Learners with visual impairment could be guided to use audio visual digital devices to observe, listen, identify and record water pollutants.	

			• In groups, learners with visual impairment could take a walk around the school and neighbourhood to observe, identify and discuss about clean and polluted water in a pit, open pools, ponds, rivers and sewers. • Learners with blindness could be given verbal descriptions on clean and polluted water in their neighbourhood and even smell. • Learners with visual impairment could be guided to use audio visual digital devices to differentiate between clean and polluted water.	

			• In groups, learners with visual impairment could take a walk around the school and the neighbourhood to observe, identify, discuss and record the effects of water pollution on living things like waterborne diseases, death of plants and animals that live in water. • Learners with blindness to be grouped with learners who are low vision, be given verbal description on effects of water pollution on living things around their school and neighbourhood.	

			• In groups, learners with visual impairment could be guided to use audio visual digital devices to identify the effects of water pollution on living things. • Learners with visual impairment could be guided to identify and discuss ways of reducing water pollution like proper disposal of waste and proper drainage of dirty water. • Learners with visual impairment could be guided to sing songs, recite poems and role play about water pollution. Learners with blindness could be given	

			verbal descriptions and orientation on how to role play.
			• In groups, learners with visual impairment could be guided to observe safety precautions when working in water polluted environment like use of gumboots and gloves.
			Project: In groups, learners could be guided to make functional water filter using locally available materials.
			• Learners with blindness to be grouped with those who are low vision to carry out the suggested project activities.

Core Competencies to be Developed:

Citizenship: This is developed as learners take care of water bodies in the environment.

Digital literacy: This is developed as learners use audio visual devices to search for more information on water pollution.	
Critical Thinking and Problem Solving: This is developed as learners make functional water filters.	
Communication and collaboration: as learners interact with each other as they work in groups.	
PCI's:	**Values:**
Environmental conservation: This is developed as learners reduce water pollution.	**Responsibility:** This is developed as learners take care of water bodies to avoid pollution.
Health Education: This is developed as learners identify health problems associated with water pollution.	**Patriotism**: as learners take care of water bodies to avoid pollution.
	Unity: as learners work in groups harmoniously.
Link to Other Learning Areas:	**Suggested Community Service Learning Activities:**
Home Science: Use of water filter to obtain clean water for domestic use.	Learners could apply skills and knowledge on proper disposal of waste in his or her environment and use of water filter to obtain clean water for domestic use in the community.
Mathematics: as learners take measurements for making water filter using locally available resources.	
Social studies: as learners conserve their environment by preventing water pollution.	
Suggested Non-Formal Activity to Support Learning:	**Suggested Modes of Assessment:**
Learners could sing songs, recite poems and dramatize about water pollution.	Projects, oral questions, written questions, observations, self-assessment, peer assessment.
Suggested Resources:	
Clean clothes, polluted and clean water, water containers, soil, used oil, audio visual digital devices, protective clothes.	

ASSESSMENT RUBRICS			
Exceeding Expectations	**Meeting Expectations**	**Approaching Expectations**	**Below Expectations**
The learner is able to define the term water pollution, in addition search for more information on the same from the website.	The learner is able to define the term water pollution.	The learner is able to give incomplete definition of the terms water pollution.	Learner has difficulties in defining the term water pollution.
The learner is able to identify water pollutants and explain how they pollute water.	The learner is able to identify water pollutants.	The learner is able to identify only three water pollutants.	The learner has difficulties in identifying water pollutants.
The learner is able to distinguish between clean and polluted water and further give three ways of making the polluted water clean.	The learner is able to distinguish between clean and polluted water.	The learner is able to distinguish between clean and polluted water and is able to give one way of making the polluted water clean.	The learner has difficulties in distinguishing between clean and polluted water.

The learner is able to identify effects of water pollution, on living things and cite example for his or her environment. .	The learner is able to identify effects of water pollution on living things.	The learner is able to identify effects of water pollution on living things and cite two examples.	The learner has difficulties in identifying effects of water pollution on living things.
The learner is able to conserve water in his or her environment and is able to cite three ways of preserving it.	The learner is able to conserve water in his or her environment.	The learner is able to conserve water in in two ways only.	The learner has difficulties conserving water in his or her environment.
The learner is able to identify ways of reducing water pollution and is able to apply the ways at the home environment.	The learner is able to identify ways of reducing water pollution.	The learner is able to identify two ways of reducing water pollution	The learner has difficulties identifying ways of reducing water pollution.
The learner is able to make a functional water filter using	The learner is able to make a functional water filter using locally available materials.	The learner is able to make incomplete functional water filter	The learner has difficulties making a

locally available materials and use it.		using locally available materials with assistance.	functional water filter using locally available materials.

Strand	Sub Strand Sub-Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Questions
2.0 Digital technology	**3.1 Digital devices** **(7 lessons)**	By the end of the sub-sub strand the learner should be able to: a) state the meaning of the term digital device for learning, b) identify the various digital devices in his or her locality, c) identify different parts of digital devices for learning, d) state the functions of the various parts of a digital device for digital literacy, e) demonstrate proper connection of parts of digital devices for use,	• In groups, learners with visual impairment could be guided to discuss the meaning of the term digital device. • In groups, learners with visual impairment could be guided to observe, manipulate and identify the various digital devices in their immediate environment for example desk top computer, laptop, mobile phone, TVs, radios, tablets, orbit, smart braillers, braille note takers, embossers, iPads. • Learners with blindness could be given one on one demonstration on how to	1. How digital devices can be used learning?

| | | f) model external parts of a digital device using locally available materials,

g) appreciate proper use of digital devices in their day to day life. | manipulate various digital devices.

• In groups, learners with visual impairment could be guided to observe, manipulate and identify the various parts of digital devices using real objects.

• In groups, learners with visual impairment could be guided to discuss the functions of the various parts of a digital device.

• In groups, learners with visual impairment could be guided to assemble and connect different parts of the digital devices at their disposal for use.

• Learners with blindness could be guided on how to | |

			connect different parts of a digital device.	
			• Learners with visual impairment could be guided to practice proper use of digital devices installed with assistive technology like when typing, taking photos, playing computer games, recording videos and audios. These learners to play the audios recorded.	
			Project: In groups, learners with visual impairment could model external parts of a digital device using locally available materials.	

Core Competencies to be Developed:

Digital Literacy: This is developed as learners use digital devices.

Critical Thinking and Problem Solving: This is developed as learners identify and assemble the components of a digital device.

Communication and Collaboration: This is developed as learners work in groups and share information.	
Imagination and Creativity: This is developed as learners model parts of a digital device.	
Learning to Learn: This is developed as learners connect the different parts of digital devices and use them appropriately.	
PCI's: Safety and security: This is developed as learners use the digital devices while taking precaution about the dangers they can cause.	**Values:** **Responsibility:** This is developed as learners handle digital devices with care.
Link to Other Learning Areas: **Creative Arts:** This is developed as learners model parts of a digital device, make audio recordings and play in class.	**Suggested Community Service Learning Activities:** Learners could record sermons and songs in worship places using a digital device.
Suggested Non-Formal Activity to Support Learning: Learners could use digital devices to play, google and enjoy	**Suggested Modes of Assessment:** Projects, oral questions, written question, observation.
Suggested Resources: Audio visual devices, e- books, digital cameras.	

ASSESSMENT RUBRICS

Exceeding Expectations	Meeting Expectations	Approaching Expectations	Below Expectations
The learner is able to state the meaning of the term digital device and in addition give examples of digital devices.	The learner is able to define the term digital device.	The learner is able to give incomplete definition of the term digital device	The learner has difficulties in defining the term digital device.
The learner is able to identify the various digital devices in his or her locality and model them.	The learner is able to identify the various digital devices in his or her locality.	The learner is able to identify the four digital devices in his or her locality.	The learner is able to identify only one digital device in his or her locality.
The learner is able to identify different parts of a digital device in his or her locality and demonstrate their uses	The learner is able to identify different parts of a digital device in his or her locality.	The learner is able to identify only two parts of a digital device in his or her locality.	The learner has difficulties in identifying parts of a digital device in his or her locality.

The learner is able to state the functions of digital devices in their day to day life and further cite their uses	The learner is able to state the functions of digital devices in their day to day life.	The learner is able to state the two functions of digital devices in their day to day life	The learner has difficulties in stating functions of digital devices in their day to day life.
The learner is able to demonstrate proper assembling of parts of digital devices and connect them, further perform a task using	The learner is able to demonstrate proper assembling of parts of digital devices and connect them.	The learner is able to demonstrate proper assembling of parts of digital devices but has difficulty in connecting these parts properly.	The learner has difficulties in assembling and connecting different parts of digital devices.
The learner is able to model external parts of a digital device using locally available materials and explain the functions of the parts.	The learner is able to model external parts of a digital device using locally available materials.	The learner is able to assemble materials for modelling but has challenge in modelling external parts of a digital device.	The learner has difficulties in assembling materials and modelling external parts of digital a device.

Strand	Sub Strand Sub-Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Questions
Digital technology	**3.2 Coding** **(5 lessons)**	By the end of the sub strand the learner should be able to: a) define the term coding as used in digital technology, b) identify coded patterns for learning, **c)** appreciate coded patterns by playing simple puzzle games for enjoyment.	• In groups, learners with visual impairment could be guided to discuss the meaning of the term "coding". • In groups, learners with visual impairment could be guided to observe, feel, identify and discuss locally available coded patterns like arrangement of leaves, how birds make nests, arrangement of shapes on a football and tennis ball, Sudoku in mathematics, word puzzle in English. Verbal descriptions	1. How do you play a puzzle game?

			of the patterns could be given to the learners with blindness. • Learners with visual impairment could be guided to use audio visual digital devices to observe, listen and identify different coded patterns like in fun and games. • In groups, learners with visual impairment could be guided to play simple puzzle games like; fitting in missing parts to complete the whole, re-assembling dismantled parts to complete the whole, word puzzles. • Learners with blindness to be	

| | | | given verbal descriptions on how to play puzzle games, they could use dominos, jig-saws to play puzzle games. | |
| | | | • Learners with visual impairment could be guided to use audio visual digital devices to solve simple patterns like computer games and puzzles. | |

Core Competencies to be Developed:

Digital Literacy: This is achieved as learners use digital devices in making patterns,

Critical Thinking and Problem Solving: This is developed as learners play puzzle games.

Communication and Collaboration: This is achieved as learners work and share information in groups.

Imagination and Creativity: This is developed as learners as play puzzle games

PCI's	Values:
Safety and security: This is developed when learners handle digital devices carefully and safely.	**Responsibility:** This is achieved as learners handle digital devices and other learning aids with care.
Link to Other Learning Areas:	**Suggested Community Service Learning**
English Language: as learners solve word puzzles.	**Activities:**

Mathematics: as learners use number pattern to play puzzle games. **Physical and Health education:** as learners manipulate various digital devises.	Learners could connect and operate digital devices at school and community functions.
Suggested Non-Formal Activity to Support Learning: Learners could play different puzzle games in school.	**Suggested Modes of Assessment:** Projects, oral questions, written questions, observation.
Suggested Resources: puzzle games, jig-saws, colour building blocks, different types of leaves, audio visual digital devices.	

ASSESSMENT RUBRICS

Exceeding Expectations	Meeting Expectations	Approaching Expectations	Below Expectations
The learner is able to define the term coding, further learners mentions where coding is used.	The learner is able to define the term coding.	The learner is able to give incomplete definition of the term coding	The learner has difficulties in defining the term coding.
The learner is able to identify coded pattern in addition, identifies where coding patterns are used.	The learner is able to identify coded pattern.	The learner is able to identify three coded pattern.	The learner has difficulties identifying coded pattern.
The learner is able to play simple puzzle games in addition; learners create their own puzzle games.	The learner is able to play simple puzzle games.	The learner is unable to complete playing simple puzzle games	The learner has difficulties in playing simple puzzle games.

Strand	Sub Strand Sub-Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Questions
3.0 Matter	3.1 States of matter 3.1.1 Understanding matter (6 lessons)	By the end of the sub-sub strand the learner should be able to: a) identify the three states of matter in the environment, b) investigate different states of matter in the environment to show their characteristics, c) categorize substances in his or her environment into the three states of matter, d) observe safety when working with different materials for personal safety, e) appreciate categories of different materials according to their states of matter in the environment.	• In groups, learners with visual impairment could be guided to observe, manipulate, feel and identify solids, liquids and the presence of air in their environment. • In groups, learners with visual impairment could be guided to use audio visual digital devices to identify the three states of matter	1. How can we different the three states of matter? 2. How can we show that there is air around us?

			(solids, liquids, gases).	
			• Learners with blindness to be given verbal descriptions of audio visual images which are not clear.	
			• Learners with visual impairment could be guided to work in groups to investigate the characteristics of different states of matter (shape, volume and mass),	
			• Learners with blindness to be given materials	

			with; different shapes, different masses and different volume for manipulation.	
			• Learners with visual impairment could be guided to manipulate different materials to show the characteristics of the three states of matter in activities like filling balloons with air, flapping paper to feel air, filling containers of different shapes with water, filling	

			containers with pebbles, soil or stones.
			• Learners with visual impairment could be guided to take a walk in school to observe different substances in the locality and group them into the three states of matter.
			• Learners with blindness could be guided to manipulate and feel the different states of matter.
			• Learners with visual impairment

| | | | to use audio visual digital devices to demonstrate the characteristics of the three states of matter.
• Learners with visual impairment could be guided on how to take precaution when handling different substances.
• Learners could be guided to sing songs, recite poems and play games about the three states of matter. Learners with blindness | |

			could be given verbal descriptions of the games and orientation to the area of play.	

Core Competencies to be Developed:

Communication and Collaboration: This is achieved when learners work in groups and share information.

Digital Literacy: This is achieved as learners use digital devices to investigate and categorise different materials into the three states

of matter.

PCI's:	**Values:**
Safety and security: This is developed as learners work with different materials while taking safety precaution. **Disaster Risk Reduction:** This is developed as learners take precautions while manipulating different materials.	**Responsibility:** This is developed as learners take care of learning materials. **Respect:** as learners take turns and appreciate each other's opinion while working in groups.
Link to Other Learning Areas: **Mathematics:** Volume, mass and shape demonstrate different characteristics of matter.	**Suggested Community Service Learning Activities:** With parental guidance, learners could identify the uses of solids, liquids and gases at home.

Suggested Non-Formal Activity to Support Learning:	Suggested Modes of Assessment:
Learners could sing songs, recite poems and play games about states of matter in school.	Oral questions, written questions, observation.

Suggested Resources:
Soil, water, balloons of air, containers of different shapes and sizes, pieces of wood, stones.

ASSESSMENT RUBRICS			
Exceeding Expectations	**Meeting Expectations**	**Approaching Expectations**	**Below Expectations**
The learner is able to identify the three states of matter and further give examples in each.	The learner is able to identify the three states of matter.	The learner is able to identify two states of matter.	The learner is able to identify one state of matter.
The learner is able to investigate different states of matter to show their characteristics and further explains them.	The learner is able to investigate different states of matter to show their characteristics.	The learner is able to investigate two states of matter to show their characteristics.	The learner has difficulties in investigating different states of matter to show their characteristics.
The learner is able to categorise the substances in the environment into the	The learner is able to categorise the substances in	The learner is able to categorise the substances in	The learner has difficulties in categorising the

three states of matter and further gives examples in each.	the environment into the three states of matter.	the environment into two states of matter	substances in the environment into the three states of matter.
The learner is able to observe safety when working with different materials and further improvise protective materials.	The learner is able to observe safety when working with different materials.	The learner is able to observe safety when working with only two different materials.	The learner has difficulties in observing safety when working with different materials.

Strand	Sub Strand Sub-Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Questions
Matter	**3.2 Properties of Matter** **3.2.1 Floating and sinking** **(8 lessons)**	By the end of the sub-sub strand the learner should be able to: a) demonstrate sinking and floating using different materials, b) identify objects from their environment that can float and those that can sink in water, c) identify factors that affect floating and sinking of objects in water, d) make a floater using locally available materials e) appreciate use of floaters as life savers for personal safety.	• In groups, learners with visual impairment could be guided to use objects to demonstrate sinking and floating of different materials. • Learners with blindness to be grouped with learners who are low vision, could be given with verbal descriptions how to carry out sinking and floating. • In groups, learners with visual impairment could be	1. Why do some materials float and others sink? 2. How are floaters useful in our lives?

			guided to use audio visual digital devices to observe, listen and record sinking and floating of different materials.
			• Learners with visual impairment could be guided to observe, manipulate and classify objects in their environment into those that float and those that sink in water.
			• Learners with blindness could be guided to tactually explore objects that sink in water.
			• Learners with visual impairment could be

			guided to investigate how shape and type of materials affect sinking or floating of an object like normal bottle tops, feathers, crushed bottle tops, same quantity of plasticine in different shapes.	
			• Learners with blindness could be given tactual cues.	
			• In groups learners with visual impairment could be guided on how to make floaters to sink and sinkers to float.	
			• Learners with blindness to be guided to make floaters sink	

			and sinkers float by changing their shapes for instance flattening a bottle top and immersing it in water vertically. • Learners with visual impairment could be guided to use audio visual digital devices to observe and listen to information about the use of floaters as life savers. The audio-visual images which are not clear to be verbally described. • In groups, learners with visual impairment could be guided by an adult on	

			how to use floaters as life savers. • Learners could sing songs, recite poems and role play about floaters and sinkers. • **Project:** In groups, learners could be guided to make floaters using locally available materials such as rubber tubes, wood or plastics, banana stems, jerricans, reeds. • Learners with blindness to be grouped with those who are low vision to carry out projects activities.	

Core Competencies to be Developed:

Critical Thinking and Problem Solving: This is achieved as learners identify factors that affect floating and sinking of objects.

Communication and Collaboration: This is developed when learners investigate and discuss observations with peers.

Imagination and Creativity: This is developed as learners make floaters.

Digital literacy: as learners use audio visual digital devices to investigate sinking and floating of objects.

PCI's:	**Values:**
Life skills: This is developed when learners are using floaters as life savers.	**Respect:** This is achieved as learners make floaters in groups in harmoniously.
Disaster risk reduction: This is achieved when learners are using floaters to prevent drowning.	**Love:** as they support each other while working in groups.
	Responsibility: as they learn the use of floaters to save life.
Link to Other Learning Areas:	**Suggested Community Service Learning:**
Creative Arts: when making floaters.	Learners could teach other youths at home and the community the importance of floaters when they are in water masses like rivers, lakes, oceans as they travel or swim.
Physical and health Education: this is achieved as learners swim using floaters.	
Suggested Non-Formal Activity to Support Learning:	**Suggested Modes of Assessment:**
Learners could play games, recite poems and sing songs about floaters in school.	Projects, oral questions, written questions, observation, peer assessment

ASSESSMENT RUBRICS			
Exceeding Expectations	**Meeting Expectations**	**Approaching Expectations**	**Below Expectations**
The learner is able to demonstrate sinking and floating using different materials and categorise objects which can sink and those can float.	The learner is able to demonstrate sinking and floating using different materials.	The learner is able to demonstrate sinking but has difficulties in demonstrating floating.	The learner has difficulties in demonstrating sinking and floating using different materials.
The learner is able to identify objects that can float and those that can sink in water and further classify them.	The learner is able to identify objects that can float and those that can sink in water.	The learner is able to identify objects that can float and few that can sink in water.	The learner is able to identify one object that can float and one that can sink in water.
The learner is able to identify factors that make objects to float or sink in water and further gives illustrations	The learner is able to identify factors that make objects to float or sink in water.	The learner is able to identify factors that make objects sink in water but has difficulties in identifying factors that make others float in water	The learner has difficulties in identifying factors that make objects to float or sink in water.
The learner is able to make a floater using locally available materials and supports others.	The learner is able to make a floater using locally available materials.	Learner is able to make a floater using locally available materials with support.	Learner has difficulties in making a floater using locally available materials.

Strand	Sub Strand Sub-Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Questions
Force and Energy	**5.1 Force** **5.1.1 Force and its Effects** **(4 lessons)**	By the end of the sub-sub strand the learner should be able to: a) Define the meaning of the term force for learning. b) Demonstrate the effects of force on an object. c) Observe safety precautions when dealing with force for personal safety. d) Appreciate effects of force in their day to day lives.	• In groups, learners with visual impairment could be guided to carry out activities like pushing, lifting, pulling, jumping and running to show the meaning of the term force. • Learners with blindness could be given orientations to the objects and the areas in which the activities will be carried out. • In groups, learners with visual impairment could be guided to demonstrate and observe the effect of force on objects like change of direction of movement, change of shape of an object, riding a bicycle, start and stop movement of an object. • Learners with blindness could be given explanation on the effects of force to objects in use. • Learners with visual impairment could be guided to carry out activities that show force at work	1. How do we apply force? 2. How does force help us in everyday life?

			for example pushing a wheel barrow, tug of war, pulling and pushing a hand-cart, ox cart, pushing a bicycle. • Learners with blindness to be given one on one demonstration on the named activities. • Learners with visual impairment could be guided to discuss safety precautions to observe when dealing with force.	

Core Competencies to be Developed:

Communication and Collaboration: This is achieved as learners carry out activities and share information in groups.

Digital Literacy: This is developed as learners use audio visual devices to observe or listen to force at work.

Critical Thinking and Problem Solving: This is developed when learners carry out activities to show that force exists.

PCI's:	**Values:**
Disaster Risk Reduction: This is developed when learners observe safety precautions while demonstrating the effects of force on objects.	**Respect:** This are achieved as learners appreciate each other's opinion as they carry out activities in groups. **Unity:** This is developed as learners carry out tasks together.
Link to Other Learning Areas:	**Suggested Community Service Learning Activities:**
Agriculture; when learners are pulling cart loaded with; manure, farm tools and equipment. **Physical and Health Education** as learners jump and play games to demonstrate force.	Learners could participate in activities that require use of force at home like pushing wheelbarrows, digging, ploughing.
Suggested Non-Formal Activity to Support Learning:	**Suggested Modes of Assessment:**

Learners could sing, recite poems and play games about force at school as they play.	Projects, checklist, observation, oral assessment.

Suggested Resources:

Wheelbarrows, boxes, books, logs of wood, pictures, photographs, stones, ox plough, ropes, bicycles, cart, audio visual digital devices.

ASSESSMENT RUBRICS			
Exceeding Expectations	**Meeting Expectations**	**Approaching Expectations**	**Below Expectations**
The learner is able to state the meaning of the term force and further, give examples.	The learner is able to state the meaning of the term force.	The learner is able to give incomplete meaning of the term force	The learner has difficulties in stating the meaning of the term force.
The learner is able demonstrate the effects of force on an object and further explains why	The learner is able to demonstrate the effects of force on an object.	The learner is able to only two effects of force on an object	The learner has difficulties in demonstrating the effects of force on an object.
The learner is able to observe safety precautions when dealing with force and further explain why	The learner is able to observe safety precautions when dealing with force.	The learner is able to observe safety precautions when dealing with force on three objects.	The learner has difficulties in observing safety precautions when dealing with force.
PCI's: Safety as learners take precaution when handling materials and objects.		**Values:** **Responsibility:** This is developed as learners work together making different functional equipment to demonstrate effect of force.	

Strand	Sub Strand Sub-Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Questions
5.0 Force and Energy	5.2 Energy 5.2.1 Sound energy (5 lessons)	By the end of the sub-sub strand, the learner should be able to: a) demonstrate that sound travels in all directions from a source, b) demonstrate that sound can be reflected in the environment, c) make a sound producing instrument from locally available materials, d) appreciate sound as a form of energy.	• Learners with visual impairment could be guided to carry out an activity to demonstrate that sound travels in all directions from the source for example learners spread in all corners of the classroom then a drum is hit from the centre of the classroom. • Learners with blindness should be exposed to experiences of sound from public address in halls in relation to directions. • Learners could be guided to use audio visual devices to observe, listen, discuss and record the travelling of sound in all directions from a source. • Learners could take walk to a place where they can	1. How does sound travel?

			observe and listen to reflected sound or echo like on a cliff, in a large empty hall, a forest, a valley and between tall buildings.	
			• Learners with blindness should be guided and given verbal descriptions during the walk.	
			• Learners could be guided to use audio visual digital devices to observe, listen and record the reflection of sound.	
			• Learners could be guided to make different sounds using different objects.	
			Project: In groups, learners could be guided to make sound producing instruments like bell, drum, guitar, wind instruments and shakers from locally available materials.	
			• Learners with blindness to be grouped with those who are	

			low vision to carry out project activities.	

Core Competencies to be Developed:

Communication and Collaboration: This is achieved as learners carry out activities in groups and share information.

Imagination and Creativity: This is developed when learners make sound producing instruments.

Learning to Learn: This is developed when learners research on various sound producing instruments from their environment.

PCI's	Values:
Safety and Security: This is achieved as learners handle with care materials, objects and make sound producing instruments.	**Responsibility:** This is achieved as learners take care of the equipment and tools. Love: as learners appreciate one another while working in groups.
Link to Other Learning Areas: **Creative Arts**: This is achieved as learners make and use sound producing instruments. **Music** as learners play instruments to produce sounds.	**Suggested Community Service Learning Activities:** Learners could find out local names of various sound producing instruments within their community.
Suggested Non-Formal Activity to Support Learning: Learners could make different sounds using different objects for enjoyment and relaxation during free time in school**.**	**Suggested Modes of Assessment:** Projects, oral questions, written questions, observation, peer assessment.

Suggested resources: skin and hides, strings, sticks, bottle tops, wires, nails, tins, pieces of wood, hammer, cutting implements.

ASSESSMENT RUBRICS			
Exceeding Expectations	**Meeting Expectations**	**Approaching Expectations**	**Below Expectations**
The learner is able to create variety of situations to demonstrate that sound travels in all directions.	The learner is able to demonstrate that sound travels from a source in all directions.	The learner is only able to use few sources to demonstrate that sound travels in all directions.	The learner has difficulties in telling the direction of sound.
The learner is able to create variety of situations to demonstrate that sound can be reflected.	The learner is able to demonstrate that sound can be reflected.	The learner has limited situations to demonstrate that sound can be reflected.	The learner has difficulties in telling that sound can be reflected.
The learner is able to make sound producing instruments from locally available materials and further use them to produce sound.	The learner is able to make sound producing instruments from locally available materials.	The learner is able to make incomplete sound producing instruments from locally available materials.	The learner has difficulties in assembling materials for making sound producing instruments.

Strand	Sub Strand Sub-Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Questions
5.0 Force and Energy	5.3 Energy 5.3.1. Light energy (6 lessons)	By the end of the sub-sub strand, the learner should be able to; a) demonstrate that light travels in a straight line, b) demonstrate the transmission of light through different material, c) classify materials from the environment into transparent, translucent and opaque, d) appreciate the use of light energy in their day to day life.	• Learners could be guided to carry out activities to show that light travels in a straight line. • Learners with blindness to be given verbal descriptions of the activities for instance learners with blindness to hold alit candle, the learner with low vision to look at the candle through a pipe and verbally explain what he or she can see. • Learners could be guided to use audio visual digital devices to observe, listen discuss and record the travelling of light in a straight line. • Learners with blindness could be given verbal	1. How does light move from the source to its surrounding? 2. Why do we need light?

			descriptions on traveling of light in a straight line.
			• Learners with low vision to demonstrate observe and record the transmission of light through different materials.
			• Learners with blindness should be given verbal description on different materials that allows light to pass through.
			• Learners to classy materials in their locality into transparent, translucent or opaque.
			• Learners with blindness should be given verbal description and manipulate materials that are transparent, translucent or opaque in their locality.
			Project: Learners could be guided to make a screen for projection of still images.

			• Learners with blindness to be grouped with those who are low vision to carry out project activities. Verbal descriptions could be given to learners with blindness on how the screen works.	

Core Competences to be Developed:

Critical Thinking and Problem Solving: This is achieved as learners classify different objects into transparent, translucent or opaque.

Creativity and Imagination: This is developed when learners make a screen for projecting pictures.

Communication and Collaboration: this is achieved as learners work together in groups.

PCI's:	**Values:**
Safety and Security: This is achieved as learners handle materials and equipment safely when making screen for projection.	**Unity:** This is achieved as learners work together during project.
Life skill: this is achieved as learners clean their hands after interacting with different materials in their environment.	**Respect**: This is developed when learners respect each other's opinion when working in their groups.
Link to Other Learning Areas:	**Suggested Community Service Learning Activities:**
Home Science: When learners lit up their homes.	Learners could guide the family members to classify locally available materials as either transparent, translucent or opaque.
Mathematics: When taking measurement on materials for making screen.	
Suggested Non-Formal Activity to Support Learning:	**Suggested Modes of Assessment:**

Learners could carry out activities on objects to show transparent, translucent and opaque qualities during their free time.	Projects, oral questions, written questions, observation, peer assessment.

Suggested Resources:

Candles, tin lamp, paper, pieces of clothes of different colours, glass, plastics, mirror, oil, torch, match box, hard papers, pieces of wood, straight and bent pipes, stones, cutting tools, polythene paper.

ASSESSMENT RUBRICS

Exceeding Expectations	Meeting Expectations	Approaching Expectations	Below expectations
The learner is able to create variety of situations to demonstrate that light travels in a straight line.	The learner is able to demonstrate that light travels in a straight line.	The learner is able to demonstrate that light travels in a straight line using one situation.	The learner has difficulties in telling that light travels in a straight line.
The learner is able to demonstrate transmission of light through different materials and further identity materials that light cannot be transmitted through.	The learner is able to demonstrate transmission of light through different materials.	The learner is able to demonstrate transmission of light through one type of materials.	The learner has difficulties in demonstrating transmission of light through different materials.
The learner is able to classify materials into transparent, translucent and opaque and give their uses.	The learner is able to classify materials into transparent, translucent and opaque.	The learner is able to classify materials into transparent and translucent.	The learner is only able to classify transparent materials.

Strand	Sub Strand Sub-Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Questions
5.0 Force and Energy	**5.4 Energy** **5.4.1Heat energy (7 lessons)**	By the end of the sub-sub strand the learner should be able to: a) demonstrate conduction of heat using different materials, b) identify poor and good conductors of heat in the environment, c) identify uses of poor and good conductors of heat in the environment, d) make oven gloves and fireless cookers from locally available materials for use, e) appreciate the use of good and poor conductors of heat in their daily lives.	• Learners could be guided to perform experiments and demonstrate conduction of heat using materials like nails, pieces of woods, spoons, metal rods. • Learners with blindness should be guided to feel heat from a distance from a source. • Learners could be guided to use digital audio-visual digital devices to observe, listen, discuss and record how conduction of heat takes place. • Learners could be guided to investigate and identify poor and good conductors of heat. • Learners could be guided to carry out experiments to identify and record poor and good conductors of heat. With guidance learners with	1. How does heat move from one point to another in solids? 2. How do we use heat?

			blindness should be given variety of materials to investigate movement of heat through different materials.	
			• Learners could be guided to manipulate, demonstrate and record discuss the uses of good and poor conductors of heat.	
			• Learners could be guided to use digital devices installed with assistive technology to observe, listen and record the uses of good and poor conductors of heat.	
			Project: Learners could be guided to make oven gloves using locally available materials.	
			Project: Learners could be guided to make a fireless cooker.	

Core Competences to be Developed:

Critical Thinking and Problem Solving: This is developed as learners identify good and poor conductors of heat.

Imagination and Creativity: This is developed as learners make oven gloves and fireless cooker.

Communication and Collaboration: This is developed as learners work in groups and share information.

Digital Literacy: This is achieved as learner use digital devices to demonstrate and observe conduction of heat.

PCI's	Values:
Safety and security: This is achieved as learners ensure personal safety when doing activities involving use of heat.	**Unity:** This is achieved as learners support each other while working in groups.
Environmental education: This is developed as learners use fireless cookers made from the locally available materials.	**Responsibility:** as learners become careful and diligent while carrying out experiments.
Link to Other Learning Areas:	**Suggested Community Service Learning Activities:**
Creative Arts: This is achieved as learners make fireless cookers and oven gloves using locally available materials.	Learners could make and use fireless cookers and oven gloves at home and in the community.
Home Science: This achieved as learners make gloves and observe hygiene.	
Suggested Non-Formal Activity to Support Learning:	**Suggested Modes of Assessment:**
Learners could collect and classify different materials as good and poor conductors of heat during their free time**.**	Projects, oral question, written questions, practical, observation.

Suggested Resources:

Knitting thread and needles, source of heat, sand, pieces of wood, soil, containers, plastics, glass, wires, pieces of cloths.

ASSESSMENT RUBRICS			
Exceeding Expectations	**Meeting Expectations**	**Approaching Expectations**	**Below expectations**
The learner is able to demonstrate conduction of heat using variety of materials.	The learner is able to demonstrate conduction of heat.	The learner is able to demonstrate conduction of heat using two different materials.	The learner has difficulties in demonstrating conduction of heat.
The learner is able to identify poor and good conductors of heat and further gives explanation.	The learner is able to identify poor and good conductors of heat.	The learner is only able to identify good conductors of heat but has challenges in identifying poor conductors of heat.	The learner has difficulties in identifying conductors of heat.
The learner is able to make oven gloves and fireless cooker from locally available materials and further use them.	The learner is able to make oven gloves and fireless cooker from locally available materials.	The learner is able to make incomplete oven gloves and fireless cooker from locally available materials.	The learner has difficulties in assembling materials for making oven gloves and fireless cooker from locally available materials.

Strand	Sub Strand Sub-Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Questions
5.0 Force and Energy	5.5 Machines 5.5.1 Levers (8 lessons)	By the end of the sub-sub strand the learner should be able to: a) identify the lever as a machine used in everyday life, b) identify levers used in the locality, c) identify parts of a lever for learning, d) make a seesaw for creativity, e) make a functional beam balance using the locally available materials, f) appreciate the use of levers.	• Learners could be guided to identify and demonstrate levers as simple machines. Learners with blindness are guided to manipulate levers for example, spoon, and scissors, and wheelbarrow, beam balance, spade. • Learners could be guided to use audio visual digital devices to demonstrate levers as simple machines. Learners with blindness could be given verbal descriptions of audio visual images that are not clear. • Learners could be guided to identify and discuss different levers used in the locality. • Learners could be guided to use digital devices to observe, listen	1. How do we use levers in our everyday life?

			and record different levers like see saw, beam balance, wheel barrow, spade, spoon, fishing rod and scissors.	
			• In groups, learners could be guided to identify, manipulate and record parts of a lever.	
			• Learners could be guided to use digital devices to observe, listen and identify parts of a lever. Leaners with blindness could be given verbal descriptions of what is observed.	
			• Learners could be guided to carry out activities involving use of levers. Learners with blindness to be grouped with those who are low vision to carry out these activities.	
			Project: In groups, learners are guided to make and use a functional beam balance using locally available materials.	

			Learners with blindness to be grouped with those who are low vision to carry out project activities.	

Core Competencies to be Developed:

Critical Thinking and Problem Solving: This is developed as leaners identify and use levers to carry out different activities in the community.

Communication and Collaboration: This is developed as learners work in groups when making levers.

Imagination and Creativity: This is developed during the making of a beam balance and a seesaw.

PCI's:	Values:
Safety and Security: This is developed as learners observe safety measures when making and using levers. Education for suitable development as learner makes simple machines using locally available materials.	**Responsibility** : These are developed when learners work in groups and take care of the equipment they work with.
Link to Other Learning Areas:	**Suggested Community Service-Learning Activities:**
Agriculture: as learners use farm tools as simple machine **Home Science**: Use of cutlery, bottle openers. **Physical and Health Education**: as learners play on the seesaw and beam balance.	Learners could be guided by parents to identify and safely use of levers in the community.
Suggested Non-Formal Activity to Support Learning:	**Suggested Modes of Assessment:**
Learners could play games involving levers during their free time.	Projects, oral questions, written questions, observation peer assessment.

Suggested Resources:

Fishing rod, hammer, nail, spade, seesaw, containers of different sizes, soil, pieces of wood, pictures, audio visual digital devices.

ASSESSMENT RUBRICS

Exceeding Expectations	Meeting Expectations	Approaching Expectations	Below Expectations
The learner is able identify levers as machines and further identify their uses in everyday life.	The learner is able to identify levers as machines used in everyday life.	The learner is able to identify two types of levers as machines used in everyday life.	The learner has difficulties in identifying levers as machines used in everyday life.
The learner is able to identify levers used in the locality and further models them.	The learner is able to identify levers used in their locality.	The learner is able to identify at least three levers used in their locality.	The learner is able to identify at least one lever used in their locality.
The learner is able to identify parts of a lever and demonstrates the position of these parts from a simple machine.	The learner is able to identify parts of a lever.	The learner is able to identify two parts of a lever.	The learner has difficulties in identifying parts of a lever.
Learner is able make a functional beam balance using locally available materials and further uses it for enjoyment.	The learner is able to make a functional beam balance using locally available materials.	The learner is able to make an incomplete beam balance using locally available materials.	The learner has difficulties in assembling locally available materials for making a functional beam balance.

Strand	Sub Strand Sub-Sub Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Questions
Earth and space	**5.6 Weather and sky** **5.6.1 Weather conditions** **(8 lessons)**	By the end of the sub-sub strand, the learner should be able to: a) record weather conditions in his or her locality, b) identify types of clouds in the sky during the day, c) record types of clouds in the sky during the day, d) identify activities done during different weather conditions in their environment, e) make a weather clock for learning, f) make a weather chart for recording weather changes, g) appreciate the importance of weather conditions within the locality for enjoyment.	• Learners could be guided to identify, discuss, feel and record weather conditions of the day like calm, rainy, windy, sunny and cloudy. • Learners with blindness should be given tactile illustration on different weather conditions accompanied by verbal description. • In groups, learners to take a walk to their school or neighbouring weather station to identify weather conditions. • Learners with blindness to manipulate different weather instruments at the	1. How could you describe weather conditions?

			weather stations and should be given verbal descriptions of weather conditions.	
			• Learners could be guided to observe and listen to verbal descriptions of the sky during the day and record types of clouds like Cumulus, Nimbus Cirrus, and Stratus.	
			• Learners with blindness could be given embossed weather charts to identify the weather symbols.	
			• Learners could be guided to use audio visual digital devices to observe, listen to verbal or recorded descriptions and identify different types of clouds.	
			• Learners could be guided to identify activities carried out during	

			different weather conditions.	
			• Learners could be guided to discuss different activities carried out during different weather conditions like drying, winnowing, flying kites, growing crops and harvesting crops.	
			• Learners could be guided to use audio visual digital devices to observe, listen and discuss activities carried out during different weather conditions.	
			• Learners with blindness to be giving one on one demonstration on weather activities carried out during different weather condition	
			• Learners could make play things to use during play	

			time and sing songs and recite poems on weather conditions. **Project**: In groups, learners could be guided to make weather clock and record changes in the weather. Learners with blindness to be grouped with learners with low vision to make a tactile weather clock. **Project**: Learners could be guided to develop a weather chart or tactile weather chart for recording changes of weather on a daily basis.	

Core Competencies to be Developed:

Digital literacy: This is developed as learners use audio visual devices to record weather conditions.

problem Critical Thinking and Solving: This is developed as learners discuss about what to do during adverse weather conditions.

Creativity and Imagination: This is achieved as learners make and fill in the weather chart and make predictions about weather.

Self-efficacy: Learners develop self-confidence while making weather charts and recordings.

PCI's:	Values:
Safety and Security: This is achieved as learners take precaution about adverse weather conditions. Disaster Risk Reduction: This is developed when learners get to know different mitigation undertaken during adverse weather conditions. **Life Skills and Values Education**: Life skills: This is achieved as learners identify different activities for different weather conditions.	**Responsibility**: This is developed as learners take care of themselves in response to different weather conditions. **Unity:** This is developed as learners work in groups harmoniously.
Link to Other Learning Areas: **Social Studies:** weather. **Creative Arts:** making weather charts and weather clock. **Agriculture** as learners record farm activities during different weather conditions.	**Suggested Community Service-Learning Activities:** Learners could predict weather with guidance of family members, identify activities to do at home and the clothes to wear during different weather conditions.
Suggested Non-Formal Activities to Support Learning: Learners could sing songs, recite poems and play games with the play things made during their free time.	**Suggested Modes of Assessment:** Projects, oral questions, written question, observation.

Suggested Resources:

Tactile weather charts, tactile weather clock, scissors, crayons, cotton wool, glue, audio visual digital devices, portfolios.

ASSESSMENT RUBRICS

Exceeding Expectations	Meeting Expectations	Approaching Expectations	Below Expectations
The learner is able to record weather conditions in the locality and identity their elements.	The learner is able to record weather conditions in the locality.	The learner is able to record only three weather conditions in the locality.	The learner has difficulties in able to recording any weather condition in the locality.

The learner is able identify types of clouds during the day and further state their characteristics.	The learner is able to identify types of clouds during the day.	The learner is able to identify at least two types of clouds during the day.	The learner has difficulties in identifying any type of clouds during the day.
The learner is able to record and draw or describe types of clouds in the sky during the day.	The learner is able to record types of clouds in the sky during the day.	The learner is able to record at least two types of clouds in the sky during the day.	The learner has difficulties in recording a type of clouds in the sky during the day.
The learner is able to identify activities done during different weather conditions and describe the mode of dressing depending on different weather conditions.	The learner is able to identify activities done during different weather conditions.	The learner is able to identify activities done during at least, three different weather conditions.	The learner has difficulties identifying activities done during any weather conditions.
The learner is able to make a weather clock and make a weather chart and further use them appropriately.	The learner is able to make a weather clock and make a weather chart.	The learner is able to make incomplete weather clock and a weather chart.	The learner has difficulties in assembling materials for making a weather clock and a weather chart.

AGRICULTURE

ESSENCE STATEMENT

Kenya requires competent human resource for its agro-based economy. Agriculture as a learning area will build on competencies introduced in lower primary Early Years Education under environmental activities in an effort to contribute to human resource development. Learning in this area will involve practical and experiential learning activities to develop applicable competencies for sustainable development. The learning area will focus on developing skills for production of indigenous and exotic crops and farm animals through innovative agricultural practices. It will also encourage sustainable use of resources that will enhance food security. The acquired knowledge, skills and attitudes will form a foundation for development of agricultural competencies for lower secondary and beyond.

General learning outcomes

By the end of upper primary, the learner should be able to:

1. Participate actively in agricultural activities for environmental conservation.

2. Use scarce agricultural resources through innovative practices to contribute towards food security.

3. Rear small domestic animals as profitable agricultural enterprise for self-sustainability and economic development.

4. Apply technological skills, digital and media resources to enhance sustainable agricultural practices.

5. Appreciate agriculture as a worthy niche for hobby, career development, further education and training.

Strands

1. Conserving our environment
2. Farm animals
3. Gardening practices.

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key inquiry question
1.0 Conserving our Environment	**1.1. Soil (9 lessons)** **1.1.1 Soil structure**	By the end of the sub-strand the learner should be able to; a) distinguish types of soil based on particle sizes by touch, b) investigate the ability of different types of soil to hold water using porous containers, c) relate particle sizes to ability of soil to hold water for learning, d) Develop curiosity in investigating physical properties of different types of soil for creativity.	• In groups, learners feel particle sizes of different soils *(*sand, clay and loam) using their fingers. • In pairs, learners share experiences on the findings made in the experiment on particle sizes of different soils. • In groups, learners could be guided to conduct experiments to investigate ability of soils (sand, clay and loam) to hold water using porous containers (containers with small holes at the base). • Learners with blindness could be guided to feel the amount of water collected from the three samples of soil using their fingers. • In pairs, learners share experiences on observations made in the experiments on ability of soil to hold water. • Learners with blindness share their experiences on their findings on the amounts of water collected in each set-up. • In pairs, learners relate particle sizes to ability of	1. How can we determine the ability of different soils to hold water?

			soil to hold water. Learners with blindness could feel the soil samples on the funnels at the end of the experiment. The soil that feels muddy holds a lot of water while the soil that feels dry holds less water.	

Core Competencies to be developed:
Communication and Collaboration: This is developed as learners work and share ideas in pairs or groups.
Critical thinking and problem solving: This is developed as learners relate the particle sizes of soil to water holding capacity.

Pertinent and Contemporary Issues:	**Values:**
Environmental awareness: This is developed as learners collect and distinguish different types of soil in the environment	**Unity***:* This is developed as learners participate in group harmoniously.
Link to other learning areas:	**Suggested community Service-learning activities:**
Science and Technology: As learners carry out experiments on soil drainage and capillarity.	Learners to collaborate with their parents or guardians to identify types of soils at home and the community at large.
Mathematics: As learners measure the amount of water and soil during the experiment.	
Suggested non-formal activities that support learning:	**Suggested Modes of Assessment**
Learners could find out types of soil found in the school compound.	Observation, Oral questions, Peer assessment, Written questions.
Suggested Resources:	
Different types of soils, containers with small holes at the base, water, cotton wool, funnels, tins, bottles.	

Assessment Rubric

Exceeding expectation	Meeting expectation	Approaching expectation	Below expectation
The learner is able to: distinguish various types of soil based on particle sizes.	The learner is able to: distinguish types of soil based on particle sizes.	The learner is able to: distinguish some types of soil based on particle sizes with support.	The learner: has difficulties in distinguishing types of soil based on particle sizes.
investigate and discuss water holding ability of different soil types.	investigate water holding ability of different types of soil.	investigate water holding ability of one type of soil.	has difficulties in investigating water holding ability of different types of soil.
relate and discuss particle sizes to ability of soil to hold water.	relate particle sizes to ability of soil to hold water.	attempt relating particle sizes to ability of soil to hold water.	has difficulties in relating particle sizes to ability of soil to hold water.

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key inquiry question
	1.1.2Uses of soil in Farming	By the end of the sub- strand the learner should be able to; a) Explain the ability of different soils to hold water, b) explain the uses of sand, loam and clay soils in farming, c) appreciate the relationship between water holding capacity of clay, sand and loam soils to their uses.	• In groups, learners discuss the ability of sand, clay and loam to hold water. • Learners could be guided to visit nearby farms and explore the uses of different types of soil in relation to their ability to hold water. • Learners with blindness could be given a sighted guide or aid to provide support in movement and verbal explanation of phenomena. • Learners watch or listen to a video clip on crops growing on different types of soil (sand, clay and loam). • Leaners with blindness could be given real crops to manipulate accompanied with verbal descriptions of the video. • In groups, learners discuss the uses of soils (loam, sand and clay) in farming.	1. How can we use sand, clay and loam soils in farming?

Core Competencies to be developed:
Communication and Collaboration: This is developed as learner's work and share information in groups.
Learning to Learn: This is developed as learners visit nearby farms to explore uses of different types of soils.
Digital Literacy: This is developed as learners watch or listen to a video clip on crops growing on different types of soils.

Pertinent and Contemporary Issues:	Values:
Environmental awareness: This is developed when learners visit nearby farms in the environment to explore uses of soils.	**Unity**: This is developed when learners participate in group activities in harmony.
Link to other learning areas:	**Suggested community Service learning activities:**
Science and Technology: As learners learn about the uses of different types of soil.	Learners to discuss with their parents or guardians on the uses of different types of soil at home.`

Social Studies: As learners learn about crops growing in different types of soil.	
Suggested Non-formal activities that support learning: Learners could use different types of soils to model different forms**.**	**Suggested Modes of Assessment**: Oral questions, written questions, observation, projects peer assessment
Suggested Resources: Different types of soils, water, containers, audio-visual clips, immediate environment, different types of crops.	

Assessment Rubric

Exceeding expectation	Meeting expectation	Approaching expectation	Below expectation
The learner is able to: explain and discuss the ability of different soils to hold water	The learner is able to: explain the ability of different soils to hold water	The learner is able to: explain the ability of some soils to hold water	The learner has challenges in explaining the ability of different types of soil to hold water
explain and discuss the uses of different types of soils in farming.	explain the uses of different types of soil in farming.	explain the uses of some types of soils in farming.	The learner has difficulties in explaining the uses of different types of soil in farming.

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key inquiry question
	1.1.3 Compost manure: Heap method	By the end of the sub- sub strand the learner should be able to; a) explain the meaning of compost manure in farming, b) identify suitable materials for making compost manure, c) prepare compost manure for farming, d) appreciate importance of compost manure in farming.	• Guide the learners to define compost manure • Guide learners to identify and discuss materials needed for making compost manure • Pair learners with blindness with sighted guides to provide support in movement and verbal explanation of concepts and engage them in a nature walk to collect, observe and manipulate the materials. • Learners observe or listen to stimulus materials such as audio visual clips, photos and pictures on preparation of compost manure. • Learners with blindness could be given verbal descriptions of the photos and pictures. • Learners collect suitable materials for making compost manure. • Leaners with blindness could be given a sighted guide or aid. • In groups, learners prepare compost manure using heap method. • Learners with blindness could be given a sighted guide or aid. • In groups, learners discuss the meaning of compost manure.	1. How can we make compost manure? 2. Why is compost manure important in farming?

			• Learners to collaborate with their parents or guardians to make compost manure for use in their farms or kitchen gardens.	

Core Competencies to be developed:
Communication and Collaboration: This is developed as learners work in groups or pairs.

Learning to Learn: This is developed as learners make compost manure.

Pertinent and Contemporary Issues: Environmental Issues; This is developed as learners collect materials from the environment to make compost manure.	**Values:** Cooperation: This is developed as learners work in groups to make compost manure.
Link to other learning areas: Science and Technology: Learners learn types of manure.	**Suggested community Service learning activities:** Learners to collaborate with their parents or guardians to make compost manure for use in their farms or kitchen gardens.
Suggested Non formal activities to support learning: Learners could make compost manure at school using different materials.	**Suggested Resources:** Different types of waste materials, jembes, protective clothes, spade, wheelbarrow and audio-visual clips.
Suggested Modes of Assessment: Projects, oral question, observation.	

Assessment Rubric

Exceeding expectation	Meeting expectation	Approaching expectation	Below expectation
The learner is able to: explain and discuss the meaning of compost manure.	The learner is able to: explain the meaning of compost manure.	The learner is able to: attempt explaining the meaning of compost manure.	The learner: has difficulties in explaining the meaning of compost manure.
identify a wide variety of suitable materials for making compost manure.	identify suitable materials for making compost manure.	identify a few materials for making compost manure.	has difficulties in identifying suitable materials for making compost manure.
prepare compost manure by heap and pit methods.	prepare compost manure by heap method.	attempt preparing compost manure by heap method.	has difficulties in preparing compost manure by heap method.

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key inquiry question
1.0 Conserving our Environment	**1.2. Water** **(5 lessons)** **1.2.1 Uses of water in the farm**	By the end of the sub- strand the learner should be able to; a) identify different uses of water in the farm, b) water plants and domestic animals in the immediate environment, c) appreciate importance of water in the farm.	• Guide learners to discuss the uses of water in the farm • Learners to observe and listen to audio-visual clips on uses of water in the farm. Learners could be provided with verbal descriptions of the pictures. • In pairs learners to brainstorm or share experiences on uses of water in the farm • In groups learners water plants and domestic animals in the school. • Learners with blindness could be given sighted guides to provide support in movement and safety as they participate in watering plants and domestic animals in the farm. • Learners visit the neighboring farms to observe how water is used for farming. • Learners with blindness could be given sighted guides for orientation and mobility.	1. How do we use water in the farm?

Core Competencies to be developed:
Digital Literacy: This is developed as learners observe and listen to video clips.
Communication and Collaboration: This is developed as learners work in pairs and groups.
Learning to Learn: This is developed as learners brainstorm and share experiences.

Pertinent and Contemporary Issues:	Values:

Environmental Issues: This is developed as learners identify uses of water in their immediate environment. Social cohesion: This is developed as learners discuss sharing of water as a resource in the community.	Love: This is developed as learners discuss uses of water as a shared resource.
Link to other learning areas: **Home science;** learner uses water for personal hygiene. **Religious Education**; as learners learn the act of sharing.	**Suggested community service learning activities:** Learners to discuss with their parents or guardians on uses of water at home and community.
Suggested Non-formal learning activities to support Learning: Learners to sing songs and recite poems on the uses of water in school.	**Suggested Resources:** Water, containers, brooms, brushes, audio-visual clips, animal shelters, plants and watering troughs.
Suggested Modes of Assessment: Observation, oral questions, group assessment	

Assessment Rubric

Exceeding expectation	Meeting expectation	Approaching expectation	Below expectation
The learner is able to: identify different uses of water in the farm and in other areas.	The learner is able to: identify different uses of water in the farm.	The learner is able to: identify some uses of water in the farm.	The learner: has difficulties in identifying different uses of water in the farm.
water a large number plants and domestic animals using a variety of methods in the immediate environment.	water plants and domestic animals in the immediate environment.	water some plants and domestic animals in the immediate environment.	has difficulties in watering plants and animals in the immediate environment.

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key inquiry question
	1.2.2 Water conservation in farming	By the end of the sub-sub strand the learner should be able to; a) describe drip irrigation as a way of conserving water, b) carry out drip irrigation to water plants, c) appreciate use of drip irrigation in conserving water in the farm.	• Guide, learners to discuss meaning and ways of drip irrigation. • Learners watch and listen to audio-visual clips on irrigation of crops through drip irrigation. • Learners with blindness could be given verbal description of the pictures on the audio-visual clip. • In groups, learners carry out drip irrigation in school using bottles. • Learners with blindness could be guided with their sighted peers or aid to assist them to carry out the irrigation to water plants in the school compound. • In groups, learners carry out drip irrigation in the school using a 5 to 10-meter-long perforated plastic pipe. • Learners with blindness could be guided with their sighted peers or aid. • Learners visit nearby farms and explore the use of drip irrigation method. • Learners with blindness could	1. How is drip irrigation used to conserve water in the farm?

| | | | be given a sighted guide or aid to provide support in movement and verbal descriptions of concepts.
 • Learners to collaborate with their parents or guardians to adopt drip irrigation in their gardening practices. | |

**Core Competencies to be developed*:*
Communication and Collaboration: This is developed as learners work and share ideas in groups and pairs on irrigation activities.
Critical thinking and problem solving: This is developed as learners use locally available materials to carry out drip irrigation.

Pertinent and Contemporary issues: **Environmental Issues**: This is developed when learners discuss water as a scarce resource in the environment and re-use of waste bottles in drip irrigation.	**Values:** **Responsibility**: This is developed as learners use drip irrigation as a way of conserving water.
Link to other learning areas: **Science and Technology**; Learners learn about water conservation **Religious Education**; as learners care for God's creation. (watering plants)	**Suggested community Service-learning activities:** Learners to collaborate with their parents or guardians to irrigate plants using drip irrigation method to conserve water.
Suggested Non-formal activities to support learning: Leaners to irrigate school flower beds using drip irrigation method.	**Suggested Resources:** Perforated plastic pipes, water, immediate environment, plastic bottles and plants
Suggested Modes of Assessment: Project, oral questions, observation	

Assessment Rubric

Exceeding expectation	Meeting expectation	Approaching expectation	Below expectation
The learner is able to: describe drip irrigation and other ways of conserving water.	The learner is able to: describe drip irrigation as a way of conserving water.	The learner is able to: attempt describing drip irrigation as a way of preserving water.	The learner: has difficulties in describing drip irrigation as a way of preserving water.
carry out drip irrigation and other methods of irrigation to water plants.	carry out drip irrigation to water plants.	carry out drip irrigation to water plants with guidance.	has difficulties in carrying out drip irrigation in the school compound.

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key inquiry question
1.0 Conserving our Environment	1.3. Living better with wild animals (7 lessons)	By the end of the sub-sub strand the learner should be able to; a) identify small wild animals that destroy crops and domestic animals, b) explain damages caused by small wild animals crops and in domestic animals, c) construct a scarecrow using locally available materials, d) use a scarecrow to keep off small wild animals from the farm, e) use digital resources to acquire information on small wild animals,	• In pairs, learners brainstorm and share experiences on small wild animals that destroy crops and domestic animals such as birds, squirrels, monkeys, mongoose and moles. • Learners watch audio-visual clips or listen to a resource person on small wild animals such as birds, squirrels, monkeys, mongoose and moles and the damages they cause on crops and domestic animals. • Learners with blindness could be given verbal descriptions of pictures in the audio-visual clip.	1. What are the small wild animals that destroy crops and farm animals? 2. What damage is caused by small wild animals in the farm?

		f) store photos of small wild animals that destroy crops and domestic animals, g) appreciate the importance of living better with small wild animals.	• Learners watch and listen to audio-visual clip or charts on varieties of scare crows. • Learners with blindness could be given verbal description of the clips and charts. • In groups, learners discuss how they could make a scare crow using locally available materials. • In groups, learners construct a scare crow using locally available materials. • Learners with blindness could be given a sighted guide or aid accompanied with tactual cues. • In groups, learners install the scare crows in the immediate environment to keep off small wild animals. • Learners with blindness could be given a sighted guide or aid to assist during the installation and provide verbal cues. • In pairs, learners use digital resources that have appropriate software to search for information on small wild animals that destroy crops and farm animals. • In groups, learners share information about small wild	3. How can you prevent reduce damage from small wild animals in the farm? 4. How is a scare crow constructed?

			animals and store photographs using appropriate methods.	
			• Learners consult a resource person such as an Information Communication Technology specialist to guide on various methods of storing photos.	
			• Learners display photos acquired and stored and talk about them.	

Core Competencies to be developed:
Digital Literacy: This is developed as learners use digital devices in searching and storing information on small wild animals.
Self-efficacy: Self-confidence is developed as learners display or talk about small wild animals using digital photo albums.
Creativity and imagination: This is developed as learners use locally available materials in constructing scarecrows.

Pertinent and Contemporary Issues:	**Values:**
Environmental Issues: This is developed as learners keep domestic animals in the environment, re-use wastes such as old clothes, wires, metals and plastic pipes in constructing scarecrows.	**Responsibility**: This is developed as learners care for domestic animals.
Link to other learning areas:	**Suggested community Service learning activities:**
Creative Arts: Learners make scarecrows.	Learners to make scarecrows to be used at home. They could also venture into scarecrows making as an income generating activity in the community.
Suggested Non formal activities to support learning:	**Suggested Modes of Assessment**:
Learners could make scarecrows to be used in the school farm.	Project, exhibition, oral questions, written questions.

Suggested Resources:
Old clothes, sticks, strings, adhesives, paper, paint, wires.

Assessment Rubric

Exceeding expectation	Meeting expectation	Approaching expectation	Below expectation
The learner is able to: identify a variety of small wild animals that destroy crops and domestic animals.	The learner is able to: identify small wild animals that destroy crops and domestic animals.	The learner is able to: identify a few small wild animals that destroy crops and domestic animals.	The learner: has difficulties in identifying small wild animals that destroy crops and domestic animals.
explain and discuss the damages caused by small wild animals that destroy crops in the farm	explain the damages caused by small wild animals that destroy crops in the farm.	explain some of the damages caused by small wild animals that destroy crops in the farm	has difficulties in explaining the damages caused by small wild animals that destroy crops in the farm.
construct a scarecrow using variety of locally available materials	construct a scarecrow using locally available materials.	construct a scarecrow using limited number of locally available materials.	has difficulties in constructing a scare crow using locally available materials.
use varied samples of scarecrows to keep off small wild animals from the farm,	use a scarecrow to keep off small wild animals from the farm,	use a few samples of scarecrows to keep off small wild animals from the farm,	has difficulties in using a scarecrow to keep off small wild animals from the farm,
use a variety of digital resources to acquire and retrieve information on small wild animals,	use digital resources to acquire information on small wild animals,	use some digital resources to acquire some information on small wild animals,	has difficulties in using digital resources to acquire information on small wild animals,

capture and store photos of small wild animals that destroy crops and domestic animals,	store photos of small wild animals that destroy crops and domestic animals,	store photos of a few small wild animals that destroy crops and domestic animals,	has difficulty in storing photos of small wild animals that destroy crops and domestic animals,

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key inquiry question
1.0 Conserving our Environment	**1.4. Growing Fruits (woody trees)** **(14 lessons)** **1.4.1 Fruit Seed Collection**	By the end of the sub strand the learner should be able to; a) identify places where seeds of edible fruits could be obtained, b) collect seeds of edible fruits from the local environment, c) develop genuine interest in collection of seed of edible fruits in the environment.	• In groups, learners suggest various places where seeds of edible fruit such as guava and tree tomato could be obtained. • Guide learners to collect and discuss variety of seeds from edible fruits • With help of the parents or guardians' learners to collect seeds of fruits such as guava and tree tomato.	1. why do we collect fruit seeds?

Core Competencies to be developed: **Learning to Learn***:* This is developed as learners identify and collect fruit tree seeds. **Communication and Collaboration***:* This is developed as learners work and share ideas in groups.	
Pertinent and Contemporary Issues to support learning: **Environmental Issues**: This is developed as learners practice safety and precautions as they collect fruit tree seed.	**Values:** **Integrity***:* This is developed as learners seek permission to collect fruit tree seeds.
Link to other learning areas: **Science and Technology** as learners learn about seeds from various plants and the parts of those seeds	**Suggested community Service-learning activities:** Learners to collaborate with their parents or guardians to collect seeds of fruits at home.

Suggested non-formal learning activities:	Suggested Resources:
Learners could collect seeds of edible fruits as an activity in their agricultural clubs.	Containers, seeds, fruits, immediate environment, tongs, protective clothing.

Suggested Modes of Assessment: Observation, projects, oral questions, written questions.

Assessment Rubric

Exceeding expectation	Meeting expectation	Approaching expectation	Below expectation
The learner is able to: identify many places where seeds of edible fruits could be obtained.	The learner is able to: identify places where seeds of edible fruits could be obtained.	The learner is able to: identify a few places where fruit tree seeds could be obtained with guidance.	The learner has difficulties in identifying places where seeds of edible fruits could be obtained.
collect a wide variety of seeds of edible fruits from the local environment.	Collect seeds of edible fruits from the local environment.	collect a few seeds of edible fruits from the local environment with guidance.	The learner has challenges in collecting seeds of edible fruits from the local environment.

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key inquiry question
	1.4.2 Fruit Seed Preparation	By the end of the sub- sub strand the learner should be able to; a) prepare seeds from edible fruits for planting, b) appreciate the importance of preparing seeds for planting.	• In groups learners extract seeds from the fruits such as guava and tree tomato using appropriate means. • Learners with blindness could be guided by sighted guides or aid to extract seeds from fruits. • In groups, learners clean the extracted seeds in water. • Learners with blindness could be guided by sighted guides or aid during the activity. • In groups learners' sort bad seeds from good seeds according to various attributes such as small and big. The learners then dispose the bad seeds and retain the good ones. • Learners with blindness could be given verbal description of the various attributes by sighted guides as they do the sorting activity. • In groups or pairs, learners appropriately sun-dry the good clean seeds and protect them from birds.	1. How are fruit seeds prepared for planting?

Core Competencies to be developed:
Learning to Learn*:* This is developed as learners extract, clean, sort and sun-dry seeds.
Creativity and imagination: This is developed as learners undertake the process of fruit seed preparation.

Pertinent and contemporary issues: **Environmental Issues:** this is developed as learners prepare seeds for planting.	Values: **Cooperation**: This is achieved through the whole process of fruit seed preparation.
Link to other learning areas: **Science and Technology**: As learners learn about seeds. **Creative Art:** Learners can use seeds in collage and mosaic, and in making musical instruments.	**Suggested community Service-learning activities:** Learners could prepare fruit seeds for planting at home or in the society.
Suggested non formal activities that support learning: Learners could start fruit seed preparation as an income generating project at school.	**Suggested Resources:** Fruits, water, sieves, clothes, containers, mats
Suggested Modes of Assessment: Observations, oral questions, peer assessment.	

Assessment Rubric

Exceeding expectation	Meeting expectation	Approaching expectation	Below expectation
The learner is able to prepare a wide variety of seeds from edible fruits for planting.	The learner is able to prepare seeds from edible fruits for planting.	The learner is able to prepare a few seeds from edible fruits for planting.	The learner has difficulties in preparing seeds from edible fruits for planting.

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key inquiry question
	1.4.3 planting fruit tree seeds	By the end of the sub strand the learner should be able to; a) prepare a site for planting seeds of a fruit tree, b) sow seeds into a prepared site for germination, c) manage a fruit tree seedling from germination up to transplanting stage, d) select tree fruit seedlings for transplanting purposes e) appreciate the importance of planting fruit tree seeds.	• In groups, learners select a suitable site for planting the fruit tree seeds (container nursery or ground nursery bed). • Learners with blindness could be given verbal description on how to select a suitable site by sighted guides during the activity. • In groups, learners prepare and set up a nursery bed. • Learners with blindness could be given support in movement and safety during preparation of the nursery bed by sighted guides during the activity. • In groups, learners sow the seeds such as guava and tree tomato in to the nursery bed. • Learners with blindness could be given support in movement and safety by sighted guides during the activity. • In groups, learners to care for the nursery bed by carrying out practices such as mulching, watering, thinning and weeding.	1.How do we prepare a site for planting seeds of a fruit tree?

			• Learners with blindness could be given assistance in movement and safety as they manage the fruit tree seedlings. • In pairs learners select fruit tree seedlings for transplanting. • Learners with blindness could be given verbal • descriptions of the selected seeds.	

Core Competencies to be developed:
Communication and collaboration*:* This is developed as learners work and share in groups and pairs.
Learning to learn: This is developed as learners carry out practices such as mulching, weeding and watering.

Pertinent and Contemporary Issues: **Financial literacy:** This could be achieved by learners selling the tree seedlings.	Values: **Responsibility***:* This is achieved by learners managing a nursery bed up to transplanting. **Unity**: This is developed as learners work in groups harmoniously.
Link to other learning areas: **Science and Technology:** as learners learn about plants. **Social Studies:** as learners about forests.	**Suggested community Service learning activities:** Learners could start a tree nursery project at home and the community at large.
Suggested non-formal activities to support learning: Sing and recite poems on the importance of trees.	**Suggested Resources:** Seeds, jembes, watering cans, water, dry leaves or grass, ground and containers.

Suggested Modes of Assessment:
Projects, observation, oral questions, written questions and peer assessment.

Assessment Rubric

Exceeding expectation	Meeting expectation	Approaching expectation	Below expectation
The learner is able to: prepare several sites for planting seeds of a fruit tree using correct procedures.	The learner is able to: prepare a site for planting seeds of a fruit tree	The learner: attempts to prepare a site for planting seeds of a fruit tree.	The learner: has difficulties in preparing a site for planting seeds of a fruit tree
creatively sow seeds into the prepared site and nurture them.	sow seeds into the prepared site.	attempts to sow seeds into the prepared site	has difficulties in sowing seeds into the prepared site.
use a variety of practices to manage a fruit tree nursery bed up to transplanting.	manage a fruit tree nursery bed up to transplanting.	uses a few practices to manage a fruit tree nursery bed up to transplanting.	has difficulties in managing a fruit tree nursery bed up to transplanting.
select a variety of fruit tree seedlings for transplanting purposes	select fruit tree seedling for transplanting purposes	selects a few fruit tree seedling for transplanting purposes	Has challenges in selecting fruit tree seedling for transplanting purposes

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key inquiry question
	1.4.4 Transplanting fruit tree seedlings	By the end of the sub-sub strand the learner should be able to; a) prepare seedlings for transplanting, b) transplant the seedlings to a suitable site in school or at home, c) sell surplus fruit tree seedlings to earn income d) appreciate transplanting as a practice in growing fruits.	• In groups, learners prepare seedlings for transplanting (reduce watering, remove shade). • Learners with blindness could be given assistance in movement and safety by sighted guides as they prepare the seedlings for transplanting. • In groups learners prepare planting holes for the seedlings. • Learners with blindness could be assisted by sighted guides to dig the holes and remove the soil. • Learners transplant the seedlings from the nursery bed to the field. • Learners with blindness could be given support in movement and verbal description of procedures during the transplanting activity. • Learners to transplant the seedlings in the selected sites in school or at home. The site could be around the fence or along the pathways among other suitable sites. • Learners with blindness could be assisted by sighted guides to transplant the seedlings in the selected sites. • Learners to sell surplus fruit tree seedlings to the school fraternity, parents and the neighboring community. • Learners with blindness could be accompanie3d by sighted guides to give assistance in movement and safety as they sell surplus fruit tree seedlings. • In class learners discuss and appropriately manage money obtained from the sale of fruit tree seedlings	1. How can we prepare fruit seedlings for transplanting? 2. How are fruit seedlings transplanted from the nursery?
Core Competencies to be developed*:* **Communication and Collaboration**: This is achieved as learner's work and share ideas in groups or pairs. **Learning to learn:** This is achieved as learners prepare and transplant the seedlings.				

Pertinent and Contemporary Issues:	Values:
Environmental Issues: This is achieved as learners transplant seedlings to conserve the environment. **Financial literacy**: This is achieved as learners sell surplus seedlings.	**Unity:** This is achieved as learners engage in group activities in harmony and respect each other's opinion. **Responsibility:** This is achieved as learners transplant fruit tree seedlings in suitable sites.
Link to other learning areas: **Science and Technology**: As learners learn about plants or at home. **Social Studies:** As learners learn about afforestation.	**Suggested community Service-learning activities:** Learners to help their parents or guardians in transplanting seedlings in their farms at home.
Suggested non- formal activities that support learning: Learners could transplant seedlings from a nursery to a school farm.	**Suggested Modes of Assessment:** Observation, oral questions, written questions, project
Suggested Resources: Seedlings, spade, jembe, panga, containers, watering cans and ground	

Assessment Rubric

Exceeding expectation	Meeting expectation	Approaching expectation	Below expectation
The learner is able to: prepare a wide variety of seedlings for transplanting.	The learner is able to: prepare seedlings for transplanting.	The learner is able to: prepare a few seedlings for transplanting.	The learner: has difficulties in preparing seedlings for transplanting.
use appropriate procedures to transplant seedlings in the seedbed and care for them.	transplant seedlings in the seedbed.	attempt to transplant seedlings in the seedbed with support.	has difficulties in transplanting seedlings in the seedbed.
sell most of the surplus fruit tree seedlings and manage the income obtained	sell surplus fruit tree seedlings	sell a few of the surplus fruit tree seedlings	has challenges in selling surplus fruit tree seedlings.

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	key inquiry question
	1.**4.5 Care for Young Fruit Trees**	By the end of the sub strand the learner should be able to: a) protect the fruit tree seedlings from damage, b) water the fruit tree seedlings to supplement moisture, c) apply mulch to the fruit tree seedlings to conserve water, d) carry out weeding for the seedlings, e) appreciate the activities for caring for young fruit trees.	• In groups, learners construct shades to protect the fruit tree seedlings from damages. • Learners with blindness could be guided by sighted guides to observe safety during the activity. • In groups, learners take turns to water the seedlings using drip irrigation method to conserve water. • Learners with blindness could be given assistance in movement and safety by sighted guides during the activity. • In groups, learners apply mulch material to the seedlings to conserve moisture. • Learners with blindness could be given verbal explanations of the mulching process by sighted guides. • Learners weed the growing seedlings. • Learners with blindness could be given verbal explanations and assistance in safety by sighted guides as they use the weeding tools during weeding.	1. How can we take care of fruit seedlings after transplanting?

Core Competencies to be developed:
Communication and Collaboration: This is achieved as learners work and share ideas in groups.
Learning to Learn: This is developed as learners undertake practices such as weeding, mulching, watering the seedlings.
Self-efficacy: Learners will develop self-confidence when they take turns in carrying out all the activities pertaining care for young fruit trees.

Pertinent and Contemporary Issues: **Environmental Issues:** This is developed as learners care for young fruit trees.	**Values:** **Responsibility:** This is achieved as learners work in group activities and take turns in managing fruit trees.
Link to other learning areas: **Science and technology:** as learners learn about plants. **Social Studies:** As learners learn about environmental conservation.	**Suggested community Service-learning activities:** Learners to engage their parents, guardians and other community members in supplying surplus fruit tree seedlings.
Suggested Non-formal activities to support learning: Sing songs and recite poems on importance of trees. Make posters on care for young fruit trees.	**Suggested modes of Assessment:** Interviews, observations, project, question and answer, peer assessment.

Suggested Resources:
Water, fruit tree seedlings, perforated pipes, dry grass and leaves, sawdust, jembe, rake

Assessment Rubric

Exceeding expectation	Meeting expectation	Approaching expectation	Below expectation
The learner is able to: use varied methods to protect fruit tree seedlings and other plants from damage.	The learner is able to: protect fruit tree seedlings from damage.	The learner is able to: use minimal methods to protect a few fruit tree seedlings from damage.	The learner: has difficulties in protecting fruit tree seedlings from damage.
use various watering methods to water the fruit tree seedlings and other plants to supplement moisture.	water the fruit tree seedlings to supplement moisture.	use a few watering methods to water the fruit tree seedlings to supplement moisture.	has difficulties in watering the fruit tree seedlings to supplement moisture
apply mulch to the fruit tree seedlings to conserve water using a wide range of decomposing vegetation materials.	apply mulch to the fruit tree seedlings to conserve water.	apply mulch to a few fruit tree seedlings to conserve water.	has difficulties in applying mulch to the fruit tree seedlings to conserve water.
carry out weeding for the fruit tree seedlings and use the weeds for mulching.	carry out weeding for the fruit tree seedlings.	carrying out weeding for the fruit tree seedlings but leaves some weeds un aprooted.	has difficulties in carrying out weeding for the fruit tree seedlings.

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key inquiry question
1.0 Conserving our Environments	**1.5. Conservation Project : Edible Crop Gardening** (9 lessons)	By the end of the sub-sub strand the learner should be able to; a) demonstrate care for growing fruit trees in the environment, b) identify right stage for harvesting fruits to avoid wastage, c) harvest fruits appropriately to reduce damages, d) manage growing fruit trees in school and the community, e) appreciate the importance of consuming fruits for nutrition.	• In groups, learners take care of the established fruit trees by carrying out appropriate activities like watering, weeding, protection, application of manure and removal of excess branches. • Learners with blindness could be given sighted guides or aid to guide in carrying out the activities. • In groups, learners share experiences on how to identify a ripe fruit such as guava and tree tomato. • Learners with blindness could be guided to use other sensory channels to identify ripe fruits. • In groups, learners carry out harvesting of fruits such as guava and tree tomato. • Learners with blindness could be assisted by sighted guides or aid through support in movement and provision of verbal explanations of ripe fruits during the activity. • In groups, learners manage growing fruit trees in school and the community. • Learners with blindness could be assisted by sighted guides through provision of support in mobility, safety and verbal descriptions about the growing fruits.	1. How do we care for fruit trees? 2. Why do we care for fruit trees? 3. How are fruits harvested?

			• Learners apply acquired skills to assist parents or guardians in the activities of caring for fruit trees at home.	

Core Competencies to be developed
Communication and Collaboration: This is developed as learners work and share ideas in groups while taking care of growing fruits.
Self-efficacy: This is achieved when learners develop confidence as they apply acquired skills from the activities of caring for fruit trees.
Critical thinking and problem solving: This is achieved as learners produce and use fruits as a nutritional supplement.

Pertinent and contemporary issues	**Values:**
Environmental Issues: This is developed as learners plant trees to conserve the environment. **Poverty eradication**: This is enhanced as learners contribute to community foods through fruits production. **Learners support programs**: Learners could start fruit production as a project.	**Unity:** This is achieved as learners engage in group activities on managing fruit trees. **Responsibility**: This is achieved as learners show dedication and commitment in preparing, sowing, transplanting seedlings and caring for young fruit trees.
Link to other learning areas: **Home Science:** As learners engage in the preparation of fruits for consumption and nutritional value of fruits. **Social Studies:** As learners learn about Environmental conservation.	**Suggested community service learning activities:** Learners apply acquired skills to plant and care for fruit trees at home and the community.
Suggested Non-formal activities to support learning: Learners could give fruit produce to other learners during or after meal time. Learners could sing or recite poems on the importance of fruits.	**Suggested mode of Assessment:** Peer assessment, exhibitions, oral questions, written question, observation.

Suggested Resources:
Containers, water, manure, secateurs, buckets, sacks, baskets and fruit trees.

Assessment Rubric

Exceeding expectation	Meeting expectation	Approaching expectation	Below expectation
The learner is able to: demonstrate care for growing fruit trees and other plants in the environment.	The learner is able to: demonstrate care for growing fruit trees in the environment.	The learner is able to: demonstrate care for a few growing fruit trees in the environment.	The learner has difficulties in demonstrating care for growing fruit trees in the environment.
identify the right stage for harvesting a wide variety of fruits to avoid wastage.	identify right stage for harvesting fruits to avoid wastage.	identify the right stage for harvesting a few fruits to avoid wastage.	has difficulties in identifying right stage for harvesting fruits to avoid wastage.
harvest fruits and store them appropriately to reduce damages.	harvest fruits appropriately to reduce damages.	harvest some fruits appropriately to reduce damages.	has difficulties in harvesting fruits appropriately to reduce damages.
apply the skills acquired to manage fruit trees and other plants in the school compound and the community.	apply the skills acquired to manage other fruit trees in the school compound and the community.	apply a few skills acquired to manage other fruit trees in the school compound and the community.	has difficulties in applying the skills acquired to manage other fruit trees in the school compound and the community.

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key inquiry question
2.0 Domestic animal	**2.1 Domestic Animals and their Uses** **(8 lessons)**	By the end of the sub-strand the learner should be able to; identify types of domestic animals in the community, distinguish between a male and a female domestic animal, relate various domestic animals to their uses, source for information on types of domestic animals, appreciate the importance of farm animals to human beings.	• Suggested Learning Experiences • Learners watch or listen to a video clip on various types of farm animals and uses. • Learners with blindness could be given verbal descriptions of the video clip. • Learners visit the neighboring farms to explore various types of farm animals and their uses and also distinguish male from female animals. • Learners with blindness could be given verbal descriptions and tactual cues about the animals. • In groups, learners share experiences on the types of animals found in their community and distinguish male and female animals. • Learners with blindness could be provided with real or models of domestic animals to tactually explore accompanied with verbal descriptions. • Learners sketch diagrams of farm animals explored in the activities.	Why do we keep domestic animals?

			• Learners with blindness could be guided to explore tactile or embossed outlines of domestic animals. They could also be guided to model domestic animals.	
			• In groups, learners match the domestic animals (cattle, sheep, goat and poultry) to their uses.	
			• Learners play and share games on domestic animals and their uses.	
			• Learners with blindness could be given a sighted guide or aid accompanied with verbal descriptions of the games.	
			• In pairs, learners use digital devices that have appropriate software to search for information on types of farm animals.	
			• Learners with blindness could be given verbal descriptions of the pictures on farm animals.	

Core Competencies to be developed:
Communication and Collaboration: This is achieved when learners engage in group activities.
Learning to Learn: This is achieved as learners explore, identify and classify vegetable crops.

Pertinent and contemporary issues:	**Link to Values:**
Preventive health: This is achieved when learners talk about vegetables as nutrients to improve lifestyles and prevent diseases. **Clubs and Societies:** This could be achieved as learners practice growing vegetable crops in their agricultural clubs.	**Respect:** This is achieved as learners display turn taking as they engage in group activities.

Link to other learning areas: **Science:** Learners learn about crops. **Mathematics:** Learners make measurement and estimation. **Home Science:** Learners learn on food and nutrition **Social Studies:** As learners talk about crops.	**Suggested community Service-learning activities:** Learners to assist their parents or guardians in activities for preparing vegetables for consumption.
Suggested Non-formal activities to support learners Learners could start vegetable gardens at school**.**	**Suggested Resources:** Different types of vegetables
Suggested modes of Assessment: Observation, oral questions, written question, peer assessment	

Assessment Rubric

Exceeding expectation	Meeting expectation	Approaching expectation	Below expectation
The learner is able to: identify types of domestic and wild animals in the community.	The learner is able to: identify specific types of farm animals in the community.	The learner is able to: identify some types of domestic animals in the community.	The learner: has difficulties in identifying specific types of domestic animals in the community.
distinguish between a male and a female domestic and wild animals.	distinguish between a male and female farm animals	distinguish a few male and female farm animals.	has difficulties in distinguishing between a male and female farm animal.
relate various types of domestic and wild animals to their uses.	relate various types of domestic animals.	relate some types of domestic animals to their uses.	has difficulties in relating various types of domestic animals to their uses.
Source for information on types of domestic and wild animals.	Source for information on types of domestic animals.	Source some information on types of domestic animals.	has difficulties in sourcing for information on types of domestic animals

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key inquiry question
3.0 Gardening Practices	**3.1. Crops for Gardening (6 lessons)** **3.1.1 Vegetables**	By the end of the sub-sub strand the learner should be able to; a) explain the meaning of a vegetable crop for learning, b) identify main vegetable crops grown in Kenya, c) classify vegetable crops according to the part eaten, d) appreciate the importance of vegetable crops in the food we eat.	• In pairs, learners suggest the meaning of vegetable crops. • In groups, learners identify various vegetable crops grown in Kenya such as carrots, spinach, tomatoes. • Learners with blindness to be provided with realia to manipulate • In groups, learners classify vegetable crops according to parts eaten such as roots, leaves, fruit and stem. • Learners with blindness could be assisted by sighted guides or aids with verbal descriptions on how to classify vegetables	1. How can we classify vegetable crops?

Core Competencies to be developed:
Communication and Collaboration: This is achieved when learners engage in group activities.
Learning to Learn: This is achieved as learners explore, identify and classify vegetable crops.

Pertinent and contemporary issues: **Preventive health:** This is achieved when learners talk about vegetables as nutrients to improve lifestyles and prevent diseases. **Clubs and Societies:** This could be achieved as learners practice growing vegetable crops in their agricultural clubs.	**Link to Values:** **Respect:** This is achieved as learners display turn taking as they engage in group activities.

Link to other learning areas:	Suggested community Service-learning activities: Learners to assist their parents or guardians in activities for preparing vegetables for consumption.
Science: Learners learn about crops. **Mathematics:** Learners make measurement and estimation. **Home Science:** Learners learn on food and nutrition **Social Studies:** As learners talk about crops.	
Suggested Non-formal activities to support learners Learners could start vegetable gardens at school**.**	**Suggested Resources:** Different types of vegetables
Suggested modes of Assessment: Observation, oral questions, written question, peer assessment	

Assessment Rubric

Exceeding expectation	Meeting expectation	Approaching expectation	Below expectation
The learner is able to: give the meaning of a vegetable crop and cite most examples.	The learner is able to: give the meaning of a vegetable crop.	The learner is able to: give the meaning of a vegetable crop with prompts.	The learner: has difficulties in giving the meaning of a vegetable crop.
identify a variety of main vegetable and indigenous crops grown in Kenya.	identify main vegetable crops grown in Kenya.	identify some main vegetable crops grown in Kenya.	has difficulties in identifying main vegetable crops grown in Kenya.
classify vegetable crops based on the main edible parts and any other aspects.	classify vegetable crops based on the main edible parts.	classify some vegetable crops based on the main edible parts.	has difficulties in classifying vegetable crops based on the main edible parts.

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key inquiry question
	3.1.2 Cereals	By the end of the sub sub-strand the learner should be able to; a) give the meaning of a cereal crop for learning, b) identify main cereal crops grown in Kenya, c) develop a display of various types of cereal grains in the classroom, d) Appreciate the importance of cereal crops in the food we eat.	• In pairs, learners suggest the meaning of cereal crops. • Learners watch or listen to audio-visual clip on main growing crops or visit a farmer growing cereal crops such as wheat, maize, rice. • Learners with blindness could be given verbal description of pictures on audio-visual clips by sighted guides. • In groups, learners identify various cereal crops grown in Kenya such as wheat, maize, and rice. • Learners with blindness to be given real cereals to manipulate. • In groups, learners collect, mount and label cereal grains such as wheat, maize, and rice on a manila paper for display. • Learners with blindness could be given a sighted guide or aid accompanied with tactual cues and brailled captions for mounting.	1. Why do we grow cereal crops?

Core Competencies to be developed:
Communication and Collaboration*:* This is developed as learners work and share ideas in groups or pairs to identify cereals.
Learning to Learn*:* This is achieved as learners collect, identify, mount and label cereals.
Digital literacy: This is achieved as the learners use digital devices.

Pertinent and Contemporary Issues.	Values:
Disaster Risk Reduction: this is achieved as learners learn about food security. **Life style diseases**: Learners will learn the importance of cereals in their nutritional needs.	**Cooperation:** This is achieved as learners work together in group activities such as collecting and identifying cereals.
Link to other learning areas: **Home Science**: As learners learn about Food and Nutrition. **Social Studies**: As learners learn about crops. **Creative Art**: Learners mount and label various types of cereal grains.	**Suggested community Service-learning activities:** Learners to assist parents or guardians in preparing cereals at home.
Suggested Non- formal activities that support learning: Learners could prepare cereals for consumption in school and prepare posters on the importance of cereal crops.	**Suggested modes of Assessment:** Projects, oral questions, observation, written questions, exhibitions, peer assessment
Suggested Resources: Manila papers, adhesive, different types of cereals, brailed caption, writing tools.	

Assessment Rubric

Exceeding expectation	Meeting expectation	Approaching expectation	Below expectation
The learner is able to: correctly give the meaning of a cereal crop and cite varied examples with ease	The learner is able to: give the meaning of a cereal crop.	The learner is able to: attempt giving the meaning of a cereal crop.	The learner: has difficulties in giving the meaning of a cereal crop.
identify main cereal crops grown in Kenya and other groups of food crops.	identify main cereals grown in Kenya.	identify a few cereal crops grown in Kenya.	has difficulties in identifying main cereal crops grown in Kenya.

				develop a display of
develop a display of various types of cereal grains and other groups of food crops in the classroom.	develop a display of various types of cereal grains in the classroom.	develop a display of some of the cereals in the classroom.	has difficulties in developing a display of various cereal grains in the classroom.

Strand	Sub-sub-strand	Specific learning outcomes	Suggested learning experiences	Key inquiry questions
	3.1.3 Legumes	By the end of the sub sub-strand the learner should be able to; a) give the meaning of a legume crop for learning, b) identify main legume crops grown in Kenya, c) develop a display of various types of legume seeds in the classroom, d) Appreciate the importance of legume crops in the food we eat.	• In pairs, learners suggest the meaning of legume crops. • Learners watch or listen to a video or visit a farm growing legumes such as beans, peas, green grams. Learners with blindness could be given a sighted guide to provide verbal descriptions of the different types of legumes. • In groups, learners identify various legume crops grown in Kenya such as beans, peas, green grams. • Learners with blindness be given real legume plant to tactually manipulate • In groups, learners collect, mount and label legume seeds such as beans, peas, and green grams on a manila paper for display. • Learners with blindness could be given a sighted guide or aid accompanied with tactual cues and brailed captions. • Learners carry out an activity of matching crops to their respective categories (vegetables, cereals and legumes).	1. Why do we grow legume crops?

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Core Competencies to be developed:
Learning to learn: This is achieved as the learners identify, match, label, and mount legumes.
Communication and collaboration: This is achieved as the learners engage in group activities and share ideas while classifying and identifying the legumes.
Digital literacy: This is achieved when the learner uses digital devices.

Pertinent and Contemporary Issues:	**Values***:*
Disaster risk reduction: This is achieved as learners learn about food security to reduce hunger. **Life style diseases**: Taking care of their nutritional needs through consumption of legumes.	**Unity:** This is achieved as learners work harmoniously in group activities such as collecting, identifying and categorizing legumes.
Link to other learning areas: **Home Science:** As learners learn about uses of legumes as a nutritional supplement. **Science and Technology:** As learners learn about crops. **Creative Arts:** As learners mount and label the legumes.	**Suggested community Service-learning activities:** Learners to assist parents or guardians in the activities for preparing legumes for consumption.
Suggested Non- formal activities that support learning: Learners make posters of legumes and prepare legumes for consumption in the school.	**Suggested modes of Assessment:** Observation, oral questions, exhibitions, projects, written questions, peer assessment

Suggested Resources:
Samples of legumes, manila paper, and marker pen, brailed captions, sugar papers, adhesives.

Assessment Rubric

Exceeding expectation	Meeting expectation	Approaching expectation	Below expectation
The learner is able to: correctly give the meaning of a legume crop and cite examples.	The learner is able to: give the meaning of a legume crop.	The learner is able to: give the meaning of a legume crop with prompts.	The learner: has difficulties in giving the meaning of a legume crop.
identify main legume crops and other groups of food crops grown in Kenya.	identify main legume crops grown in Kenya.	identify some legume crops grown in Kenya.	has difficulties in identifying main legume crops grown in Kenya.
develop a display of various types of legume crops and other groups of food crops in the classroom.	develop a display of various types of legume crops in the classroom.	develop a display of some of the types of legume crops in the classroom with assistance.	has difficulties in developing a display of various types of legume crops in the classroom.

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key inquiry question
3.0 Gardening Practices	**3.2. Selected Gardening Practices (13 lessons)** **3.2.1 Direct sowing of tiny seeds**	By the end of the sub-sub strand the learner should be able to; a) prepare a fine seedbed for crops with tiny seeds, b) sow tiny seeds directly in the seedbed, c) appreciate the preparation of a seedbed for tiny seeds.	• In pairs, learner brainstorm on how tiny seeds are planted on a seed bed. • Learners watch or listen to audio-visual clip on how to prepare a fine seedbed and sow crops with tiny seeds. • Learners with blindness could be given a sighted guide or aid and verbal description of pictures on the clip. • In groups, learners prepare a suitable seedbed for sowing tiny seeds. • Learners with blindness could be given a sighted guide or aid to assist in movement and safety during the seedbed preparation. • Learners sow tiny seeds in the prepared seedbed. • Learners with blindness could be given a sighted guide or aid to assist in movement and provide verbal descriptions on how to sow tiny seeds.	How can we plant tiny seeds in a seedbed?

Core Competencies to be developed:
Communication and Collaboration: This is achieved as learners engage and share ideas in group activities.
Learning to Learn: This is achieved as learners prepare suitable seedbed and sow seeds.
Digital Literacy: This is achieved as learners use digital devices.

Pertinent and Contemporary Issues:	Values:
Skills of knowing and living with self: As learners learn to be independents in the society by coming up with their own seedbeds.	**Responsibility:** This is achieved as learners take care of tools during the preparation and management of the seedbed.
Link to other learning areas: **Science and Technology**: as learners learn about types of crops **Mathematics:** as learners take measurement during the seedbed preparation.	**Suggested community Service-learning activities:** Learners to work with their parents or guardians in preparing a seedbed at home or the community.
Suggested Non- formal activities that support learning: Planting tiny seeds in the school compound through their Agricultural clubs.	**Suggested modes of assessment:** Observation, projects, oral questions, written questions, peer assessment
Suggested Resources: Jembes, seeds, measuring string, pegs, manure, dry leaves, grass	

Assessment Rubric

Exceeding expectation	Meeting expectation	Approaching expectation	Below expectation
The learner is able to: appropriately prepare a fine seedbed for planting tiny seeds using the correct procedures.	The learner is able to: prepare a fine seedbed for planting tiny seeds.	The learner is able to: attempt preparing a fine seedbed for planting tiny seeds with prompts.	The learner: has difficulties in preparing a fine seedbed for planting tiny seeds.
sow tiny seeds in the seedbed and use appropriate gardening practices like mulching to nurture them.	sow tiny in the seedbed.	sow some tiny seeds in the seedbed.	has difficulties in sowing tiny seeds in the seedbed.

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key inquiry question
	3.2.2 Care for tiny seeded crops	By the end of the sub-sub strand the learner should be able to; a) identify practices to care for directly sown tiny seeded crops in the seedbed, b) carry out the caring practices for a seedbed, c) Appreciate the value of caring for tiny seeded crops in the seedbed.	• Learners share experiences on gardening practices for tiny seeded crops in a seedbed. • Learners watch or listen to audio-visual clips on gardening practices carried out on tiny seeded crops in a seedbed. • Learners with blindness could be given verbal descriptions of the pictures in the clips. • In groups, learners carry out gardening practices on the established tiny seeded crops in the seedbed such as mulching, watering, thinning, uprooting weeds, controlling pests and removing diseased plants. • Learners with blindness could be given support in movement and safety by sighted guides or aid as they carry out the gardening practices.	1. How do we care for tiny seeded crops in a seedbed?

Core Competencies to be developed:
Communication and Collaboration: This is achieved as learners work and share information in group activities.
Digital literacy: This is achieved as learners use digital devices.
Self-efficacy: This is achieved as learners become confident when they carry out gardening practices for tiny seeded crops.

Pertinent and Contemporary Issues: **Life style diseases**: Learners learn that some tiny seeded crops have various nutritional values. **Financial literacy:** as learners learn that tiny seeded crops can be grown as an income generating activity.	**Value**: **Unity:** this is achieved as learners engage in group activities.

Link to other learning areas: **Science and Technology**: As learners learn about crops. **Home Science**: as learners learn about food and nutrition.	**Suggested community Service-learning activities:** Learners to use the acquired skills to initiate project in youth groups at home, churches and mosques.
Suggested non-formal activities that support learning: Learners could plant and care for tiny seeded crops in their agricultural clubs at school.	**Suggested modes of assessment:** Project, observation, written questions, oral Questions
Suggested Resources: tiny seeds, rakes, jembes, water, pesticides, knapsack sprayers, dry grass or leaves	

Assessment Rubric

Exceeding expectation	Meeting expectation	Approaching expectation	Below expectation
The learner is able to: identify the gardening practices to care for directly sown tiny seeded crops in the seedbed systematically.	The learner is able to: identify the gardening practices to care for directly sown tiny seeded crops in the seedbed.	The learner is able to: identify the some of the gardening practices to care for directly sown tiny seeded crops in the seedbed.	The learner: has difficulties in identifying the gardening practices to care for directly sown tiny seeded crops in the seedbed.
carry out caring practices for tiny seeded crops in the seedbed appropriately.	carry out caring practices for tiny seeded crops in a seedbed.	carry out some caring practices for tiny seeded crops in a seedbed.	has difficulties in carrying out caring practices for tiny seeded crops in a seedbed.

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key inquiry question
	3.2.3 Gardening Tools and Equipment	By the end of the sub-sub strand the learner should be able to; a) identify appropriate tools and equipment used for gardening in a seedbed, b) demonstrate appropriate use of tools and equipment in gardening practices, c) practice safety measures when using gardening tools and equipment, d) Clean the gardening tools and equipment after use. e) Appreciate the use of tools and equipment in gardening	• In groups, learners suggest tools and equipment used for gardening in a seedbed. • Learners watch or listen to audio-visual clip on safe use and cleaning of gardening tools and equipment. • Learners with blindness could be given verbal descriptions of the audio-visual clip. • Learners use appropriate tools and equipment in gardening practices of tiny seeded crops in a seedbed. • Learners with blindness could be given a sighted guide or aid to assist in safe use of tools and equipment in the garden. • Learners observe safety measures in the use of tools and equipment. • Learners with blindness could be given verbal descriptions of safety measures by sighted guides. • In groups, learners clean the gardening tools and equipment after use. • Learners with blindness could be assisted to observe safety measures by sighted guides during cleaning of the tools and equipment.	. How do we care for tools and equipment are used in gardening practices for carrots? 2. How do we observe safety measures when handling and using garden tools and equipment during gardening practices? 3. How are garden tools and equipment maintained?

Core Competencies to be developed:
Communication and Collaboration: This is achieved as learners work and share information in group activities.
Digital literacy: This is achieved as learners use digital devices.
Self-efficacy: This is achieved as learners become confident when they carry out gardening practices for tiny seeded crops.

Pertinent and Contemporary Issues:	Value:
Life style diseases: Learners learn that some tiny seeded crops have various nutritional values.	**Unity:** this is achieved as learners engage in group activities.
Financial literacy: as learners learn that tiny seeded crops can be grown as an income generating activity.	

Core Competencies to be developed:
Learning to Learn: This is achieved as learners use and clean appropriate tools for gardening practices.
Communication and Collaboration: This is achieved as the learners engage in group work activities and share ideas.

Link to Pertinent and Contemporary Issues:	Values:
Safety and security education: This is achieved as learners safely handle and use tools and equipment.	**Unity:** This is developed as learners work in groups.

Link to other learning areas:	Suggested community Service learning activities:
Science and Technology: As learners learn about uses of simple machines.	Learners to assist parents or guardians in maintaining tools and equipment at home.

Suggested non-formal activities that support learning:	Suggested modes of assessment:
Learners to clean and care for school gardening tools and equipment.	Observation, written question, projects, oral questions, peer assessment

Suggested Resources:	
Jembe, folks, rakes, measuring strings, watering cans, forked jembes	

Assessment Rubric

Exceeding expectation	Meeting expectation	Approaching expectation	Below expectation
The learner is able to: identify the gardening practices to care for directly sown tiny seeded crops in the seedbed systematically.	The learner is able to: identify the gardening practices to care for directly sown tiny seeded crops in the seedbed.	The learner is able to: identify the some of the gardening practices to care for directly sown tiny seeded crops in the seedbed.	The learner: has difficulties in identifying the gardening practices to care for directly sown tiny seeded crops in the seedbed.
carry out caring practices for tiny seeded crops in the seedbed appropriately.	carry out caring practices for tiny seeded crops in a seedbed.	carry out some caring practices for tiny seeded crops in a seedbed.	has difficulties in carrying out caring practices for tiny seeded crops in a seedbed.

Assessment Rubric

Exceeding expectation	Meeting expectation	Approaching expectation	Below expectation
The learner is able to: identify and name appropriate tools and equipment used for gardening in a seedbed.	The learner is able to: identify appropriate tools and equipment used for gardening in a seedbed.	The learner is able to: identify some tools and equipment used for gardening in a seedbed.	The learner: has difficulties in identifying appropriate tools and equipment used for gardening in a seedbed.
demonstrate proper and appropriate uses of tools and equipment in gardening practices.	demonstrate appropriate uses of tools and equipment in gardening practices.	demonstrate a few uses of tools and equipment in gardening practices.	has difficulties in demonstrating appropriate uses of tools and equipment in gardening practices.
practice appropriate safety measures when using gardening tools and equipment and other simple tools.	practice safety measures when using gardening tools and equipment.	practice some safety measures when using gardening tools and equipment.	has difficulties in practicing appropriate safety measures when using gardening tools and equipment.

clean and store a variety of gardening tools and equipment after use.	clean the gardening tools and equipment after use.	clean a few gardening tools and equipment after use.	has difficulties in cleaning the gardening tools and equipment after use.

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key inquiry question
3.0 Gardening Practices	**3.3. Innovative Gardening project (19 lessons)** **3.3.1 Container gardening**	By the end of the sub-sub strand the learner should be able to; a) identify containers that can be used for innovative gardening, b) prepare container garden for sowing seeds, c) sow seeds in the container garden, d) Appreciate the importance of innovative container gardening.	• Learners watch or listen to stimulus materials such as audio-visual clips, charts, pictures and photographs on container gardening practices showing various crops. • Learners with blindness could be given verbal descriptions of the clip, pictures, photographs, charts on container gardening practices. • In groups, learners share experiences on how crops could be grown in places where there is little space for gardening. • In groups, learners identify suitable containers to be used for container gardening. • Learners with blindness could be provided with a variety of suitable containers to tactually explore for identification	1. How can we grow crops where there is little space for gardening?

			• In groups, learners discuss instances where container gardening can be used and appropriate places where they can be placed. • In groups, learners prepare container gardens using materials such as sacks, tires, plastic bottles, wooden boxes, buckets, and small jerricans for sowing. • Learners with blindness could be assisted by sighted guides in movement and safety as they prepare container gardens. • In groups, learners sow carrot seeds in the container gardens. • Learners with blindness could be given one on one demonstration and verbal explanation of the sowing procedure by sighted guides.	

Core Competencies to be developed:
Communication and Collaboration: This is achieved as learners work and share ideas in groups.

Critical thinking and problem solving: This is achieved as learners brainstorm on what could be used to carry out innovative gardening where there is little space.

Learning to Learn: This is enhanced as learners learn that gardening can happen even where there is no land.

Self-efficacy: This is enhanced as learners develop self-confidence as they make presentations during discussions.

Creativity and imagination: This is achieved as learners convert locally available materials into gardens.

Pertinent and contemporary Issues:	**Values:**
Environmental Issues: This is achieved as learners use or re use locally available materials in innovative gardening.	**Cooperation:** This is achieved as learners engage in group activities.
Safety and security education: This is realized when learners prepare the containers for use in innovative gardening.	

Link to other learning areas:	**Suggested community Service learning activities:** Learners can start innovative gardening at home and in the community at large.
Science and Technology: Learners learn about re-use of waste materials.	
Creative Art: Learners make containers for innovative gardening.	
Home Science: learners take safety measures when preparing the containers.	
Mathematics: learners take measurement and estimation of the containers to be used in innovative gardening.	

Suggested non-formal activities that support learning:	**Suggested modes of Assessment:**
Learners could make posters on the importance of innovative gardening.	Practical, projects, observations, oral question, written question peer assessment.

Suggested Resources:
Sacks, old tyres, used containers, protective clothing, waste bottles, soil, water, manure, scissors, knives, nails, wood

Assessment Rubric

Exceeds expectation	Meets expectation	Approaches expectation	Below expectation
The learner is able to identify a variety of containers that can be used for innovative gardening.	The learner is able to identify containers that can be used for innovative gardening.	The learner is able to identify a few containers that can be used for innovative gardening with assistance.	The learner has difficulties in identifying containers that can be used for innovative gardening.
The learner is able to prepare varied container gardens using different materials for sowing seeds.	The learner is able to prepare container garden for sowing seeds.	The learner is able to attempt preparing container garden for sowing seeds.	The learner has difficulties in preparing container garden for sowing seeds.
The learner is able to sow seeds in the container garden and appropriate gardening practices to nurture them.	The learner is able to sow seeds in the container garden.	The learner is able to sow seeds in the container garden with prompts.	The learner has difficulties in; sowing seeds in the container garden.

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key inquiry question
	3.3.2 care for container gardens	By the end of the sub-strand the learner should be able to; a) acquire information on container gardening practices, b) identify the caring practices for crops in the container gardens, c) care for crops in container gardens d) carry out harvesting of crops from container garden, e) compile photos on innovative container gardening, f) sell outputs of container garden to earn income g) Appreciate importance of container gardening to food security, income generation and aesthetics	• Learners share experiences on container gardening practices for a crop of their choice which should be suitable for container gardening. • Learners to be guided on a crop that grows within a period of one to three months. • Learners use digital devices that have appropriate software to search for information on container gardening practices and innovative container gardens. • Learners with blindness to be given verbal description of the pictures in the digital devices by sighted guides. • Learners watch and listen to audio-visual clip on container gardening practices carried out on crops. • Learners with blindness could be given verbal descriptions of the pictures in the clip. • In groups, learners identify caring practices for crops such as mulching, watering, thinning, uprooting weeds, controlling pests and removing diseased	1. How can we care for container gardens?

			plants in the innovative container gardens.	
			• Learners with blindness could be given one on one orientation of the practices.	
			• In groups learners take care of crops in container gardens using the caring practices identified.	
			• Learners with blindness could be given one on one orientation of the practices.	
			• In groups, learners harvest crops from the container garden and prepare them for consumption.	
			• In groups, learners share acquired information on innovative carrot gardening. Learners with blindness could be given verbal cues of the harvesting process and one on one orientation as they harvest the crops.	
			• In groups, learners take dated photos on the various gardening practices carried out during the project as a means of record keeping.	
			• Learners with blindness could be guided on the use of devices to take the photos	
			• In groups, learners compile and store photos on innovative gardening practices using	

				appropriate methods such as digital or physical photo albums.
				• Learners with blindness could be given one on one demonstration as they compile and store the photos.
				• Learners display and talk about photos taken and stored.
				• Learners with blindness could be assisted by sighted guides in movement as they exhibit the photos taken.
				• Learners identify some crop output of the project and offer it for sale to the school fraternity, parents, guardians and the neighbouring community. The output can be in the form of harvested produce.
				• Learners with blindness could be given verbal descriptions as they identify and sell crop outputs.

Core Competencies to be developed:

Digital literacy: This is achieved as learners use digital devises in searching and storing photos and information on innovative container gardening.

Communication and Collaboration: This is achieved as learners engage in group activities while preparing container gardens.

Critical thinking and problem solving: This is developed as learners participate in developing appropriate container gardens to solve land shortage problem.

Self-efficacy: Self-confidence is developed as learners display and talk about the photos taken and stored about innovative gardening.

Link to Pertinent and Contemporary issues:	**Link to Values:**
Environmental Issues: This is developed when learners use waste containers in innovative gardening.	**Cooperation:** This is achieved when learners engage in group activities.

Poverty eradication: This is achieved by contributing to community food production through innovative gardening and sale of crop outputs to generate income. **Life style diseases**: This is developed as learners use carrots for food in preventing eye problems.	
Link to other learning areas: **Home Science: as l**earners learn about food and nutrition. **Science and Technology**: as learners learn about the environment. **Mathematics:** This is achieved as learners take measurements in container preparation. **Creative Art:** as learners display photos taken.	**Suggested community Service learning activities:** Learners to collaborate with parents or guardians to establish innovative container gardens at home and community at large.
Suggested non- formal activities that support learning: Learners could start innovative gardening at school as a project.	**Suggested modes of assessment:** Oral questions, written questions, projects, observations, exhibitions
Suggested Resources: Sacks, waste bottles, old tyres, protective clothing, pesticides, water, watering cans, manure, cement bags, scissors, knives, soil, wood, nails	

Assessment Rubric

Exceeding expectation	Meeting expectation	Approaching expectation	Below expectation
The learner is able to: acquire and share information on container gardening practices	The learner is able to: acquire information on container gardening practices.	The learner is able to: acquire some information on container gardening practices	The learner: has challenges in acquiring information on container gardening practices
identify and explain caring practices for crops in container gardening.	identify caring practices for crops in container gardening.	identify some caring practices for crops in container gardening.	has challenges in identifying caring practices for crops in container gardening.

care for a wide variety of crops in container gardens using varied gardening techniques	care for crops in container gardens.	care for a few crops in container gardens.	has challenges in coinage for crops in container gardens.
carry out harvesting and storage of crops from container gardens	carry out harvesting of crops from container gardens	carry out harvesting of some crops from container gardens	has challenges in carrying out harvesting of crops from container gardens.
compiles and labels photos on container innovative gardening .	compiles photos on innovative container gardening.	compiles some photos on innovative container gardening.	has difficulties compiling photos on innovative container gardening.

HOME SCIENCE

ESSENCE STATEMENT

Home Science for learners with visual impairment aims at equipping learners with knowledge, skills, attitudes and values which will help promote healthy living in terms of preparing and eating healthy foods, prevention of illnesses, ensuring comfort and safety in the home, observing personal hygiene , wise buying and leads to a career. In addition, the learner will be able to appreciate the physical changes which occur from foetal stage, childhood to adolescence. The learner will engage in practical activities such as shopping for the home, care of the home, cooking and service of food, food preservation, laundry work, weaving, sewing, knitting and crocheting. Home science for learners with visual impairment will also strengthen the foundation for development of higher competencies in lower secondary.

GRADE 4 DRAFT HOME SCIENCE DESIGN

Strand	Sub -Strand	Specific Learning Outcomes	Suggested Learning Experiences	Key Inquiry Question (S)
1.0 HEALTHY PRACTICES	**1.1 Play (5 lessons)**	By the end of the sub strand, the learner should be able to; a) name the various needs of a child for healthy development,	• Learner names the needs of a child for healthy development (food, shelter, clothing, play and rest) using resources (pictures/charts with appropriate colour contrast and font size for learners with low vision, and audio visual clips, realia for both learners).	1. Why is it good to play? 2. Why do we play together? 3. How do we make play items using locally available materials?
		b) identify different games played in their locality for healthy development,	• Learners in pairs, share experiences on the different games played in their locality.	
		c) identify play items for a child familiarization,	• Learner are guided to identify play items in their environment using assistive devices and technology such as audio-visual clips, charts with appropriate colour contrast and font size (for learners with low vision) and realia.	
		d) list qualities to look for when choosing suitable play items for a child for healthy development,	• In groups of visual ability, learners discuss qualities of play items such as safety,	

			durability, size, shape, colour, texture.	
		e) make play items using locally available materials for healthy development,	• In groups of visual ability, learners make play items using locally available materials for fun and enjoyment.	
		f) care for the play items for the safety of the child for healthy development,	• Learners with blindness could be guided using one on one demonstration. They could also be assisted through hand on demonstration.	
		g) observe safety during play for healthy development,	• In groups, learners role play how to take care of the playing items.	
		h) participate in a play of choice for healthy development,	• Using audio-visual clips, stories and realia, learners discuss safety during play. Pictures/charts with appropriate colour contrast could also be used for learners with low vision.	
		i) appreciate the importance of rest after play for healthy development.	• Learners play using realia such as sound balls, bean bags, shakers for learners with blindness and balls with appropriate colour contrast for learners with low vision while observing safety during play.	

Core Competencies to be developed
- **Critical thinking and problem solving:** This is developed as learners choose and make play items.
- **Communication and Collaboration:** This is developed as learners play together in pairs and in groups.
- **Creativity and Imagination:** This is developed as learners make play items from locally available materials.

Pertinent and Contemporary Issues:	**Values**
Safety and security education: This is developed during safe play by choosing safe play items and barrier-free playground **Environmental Education:** This is developed as learners use environmental friendly materials.	- **Responsibility:** This is developed as learners take care of the play items. - **Love:** This is developed as learners play together. - **Patience:** This is developed as learners take turns in playing.
Links to other learning areas:	**Suggested community service learning activities**
- **Science and Technology:** Learners are taught about a balanced diet. - **Physical and Health Education**: This occurs during play.	- Demonstrate to others how to make different play items. - Show others how to make the environment safe for play. - Suggest to others how to keep themselves safe during play. - Singing games as they play for enjoyment.
Non _ Formal Activities (To support Learning) Role play safety measures to observe during play.	

Suggested modes of assessment
Checklists, oral and written tests, group discussions, self and peer assessment, portfolio, project and observation.

Suggested resources
Assistive devices and technology (audio visual clips), realia, pictures/charts with appropriate colour contrast and font size (for learners with low vision), tactile charts and diagrams (for learners with blindness), resource person and reference books (with appropriate font size for learners with low vision and braille books for learners with blindness).

ASSESSMENT RUBRIC

The learner is able to;	The learner is able to;	The learner is able to;	The learner;
• name and explain the various needs of a child,	• name the various needs of a child,	• name some of the various needs of a child,	• has challenges in naming various needs of a child,
• identify different games played in their locality and beyond,	• identify different games played in their locality,	• identify some of the different games played in their locality,	• has challenges in identifying different games played in their locality,
• identify safe play items and make some of them ,	• identify safe play items,	• identify a few safe play items for a child,	• can identify some play items with assistance,
• list and explain qualities to look for when choosing suitable play items for a child,	• list qualities to look for when choosing suitable play items for a child,	• list some of the qualities to look for when choosing suitable play items for a child,	• has difficulty in listing qualities to look for when choosing suitable play items for a child,
• make play items using locally available materials and decorate them for aesthetic value,	• make play items using locally available materials,	• make incomplete play items using locally available materials,	• has challenges in making play items using locally available materials,
• care for the play items for the safety of the child and store them appropriately,	• care for the play items for the safety of the child,	• care for a few play items for the safety of the child,	• has difficulty in caring for play items for the safety of the child,
• observe safety measures during play for self and others,	• observe safety measures during play,	• observe some of the safety measures during play,	• observe safety measures during play, with assistance,
• participate in a play of choice and guide others during play.	• participate in a play of choice.	• participate in a selection of the plays.	• with guidance, participate in a play of choice.

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experience	Key Inquiry Question (s)
2.0 HEALTHY LIVING	**2.1 Common illnesses in the locality (5 lessons)**	By the end of the sub-strand, the learner should be able to; a) identify common illnesses in the locality for familiarization, b) communicate feeling unwell to others to seek assistance, c) identify the causes of feeling unwell for preventive measures, d) identify healthy practices that prevent feeling unwell to promote healthy living,	• Learners are guided to share experiences on incidences when they were unwell (pain, stomachache, headache, feeling hot or cold, vomiting, diarrhea). • Learners are guided to role play on how to communicate with others when feeling unwell. • Learners with low vision watch video clips, look at pictures/charts with appropriate colour contrast and size while learners with blindness listen to audio clips, description of pictures and models on causes of feeling unwell. • In groups of mixed ability, learners discuss the causes of feeling unwell.	1. How can you tell that you are unwell? 2. Why do we sometimes feel unwell? 3. How do we prevent ourselves from feeling unwell?

| | | e) practice healthy measures that prevent illness to curb infections,

f) appreciate the importance of healthy practices in promoting good health. | • Learners listen to a talk on healthy practices that prevent feeling unwell from a resource person and discuss them,
• Learners watch and listen to demonstrative audio-visual clips, observe pictures/charts with appropriate colour contrast and size on measures to prevent illness,
• In groups, learners role play healthy measures to prevent sickness. | |

Core Competencies to be developed
- **Communication and collaboration:** This is developed as learners share experiences.
- **Self-efficacy:** This is developed as learners are able to identify health practices that make them feel unwell.
- **Learning to Learn:** This is developed as learners begin to open up and share their experiences.
- **Digital Literacy:** This is developed as learners interact with the digital gadgets such as audio-visual clips.

Pertinent and Contemporary Issues (PCIs)	**Values**
• **Health Education:** This is developed as the learners learn the causes and prevention of feeling unwell. • **Life Skills:** This is developed as the learners learn and become aware of how they are feeling, thereby becoming empowered.	• **Responsibility:** This is developed as the learners take care of themselves to avoid being unwell. • **Love:** This is developed as the learner shows compassion towards those who are feeling unwell. • **Honesty:** This is developed as learners communicate about feeling unwell. • **Peace:** This is developed as the learner participates in peaceful play.

Links to other learning areas	**Suggested community service learning activities**
• **Languages:** This occurs as learners develop ability to express their ideas clearly using a common language during discussion and role play. • **Science and Technology:** This occurs as learners use varied digital gadgets to identify their body parts.	• Learners participate in community service activities that target advocacy of healthy practices to prevent illness such as Global Hand Washing Day. • Learners participate in community walks and runs such as Marter Heart Run for those with heart related diseases. • Learners take part in immunization programs like Tuberculosis and polio. • Learners sensitize the community on the importance of hygiene practices such as hand washing before and after meals, after visiting the toilet; take care of the environment to eradicate malaria for example by clearing bushes, draining stagnant water around the house and proper disposal of waste materials, • Learner make leaky tins or tappy taps to be used in the community for hand washing, • Learners role play when one is feeling unwell.

Suggested modes of assessment

Checklists, oral and written tests, group discussions, self-assessment, portfolio and observation.

Suggested Resources

 Resource person**,** audio-visual clips, pictures/charts with appropriate colour contrast and size.

Assessment Rubric

Exceeding Expectations	Meeting Expectations	Approaching Expectations	Below Expectations
The learner is able to; • communicate feeling unwell to others and seek medical intervention, • identify causes of feeling unwell and their possible remedy, • discuss healthy practices that prevent feeling unwell and sensitize others on the same , • practice healthy measures that prevent feeling unwell and motivates others to do so.	The learner is able to; • communicate feeling unwell to others, • identify the causes of feeling unwell, • discuss healthy practices that prevent feeling unwell, • practice healthy measures that prevent feeling unwell.	The learner is able to; • express some feeling of being unwell to others, • identify some of the causes of feeling unwell, • discuss some healthy practices that prevent feeling unwell, • practice some healthy measures that prevent feeling unwell.	The learners; • has challenges in communicating feeling unwell to others, • has difficulties in identifying causes of feeling unwell, • has challenges in discussing health practices that prevent feeling unwell, • the learner has challenges in practicing healthy measures that prevent feeling unwell.

Strand	Sub- Strand	Specific Learning Outcomes	Suggested Learning Experience	Key Inquiry Question (s)
2.0 HEALTHY LIVING	2.2 Care of the home (9 lessons)	By the end of the sub strand, the learner should be able to; a) identify cleaning materials and tools used at home for different methods of cleaning,	• Learners identify cleaning materials and tools (such as brooms, brushes, mops/dusters) used at home using realia, audio-visual clips and charts/pictures with appropriate colour contrast and size.	1. What materials and tools do we use to clean our home? 2. How do we clean our home? 3. How do we care for cleaning materials and tools?
		b) use locally available resources to make cleaning materials and tools to be used at home for the care of the home,	• In groups, learners discuss improvisation of cleaning materials and tools made from locally available resources. • Learners practice safety during improvisation of cleaning materials and tools made from locally available resources.	
		c) describe the procedures of cleaning the home for healthy living,	• In groups, learners describe procedures of cleaning the home (sweeping, mopping, dusting and disposal of refuse).	
		d) use various procedures to clean the home for conceptualization,	• Learners practice cleaning using various procedures (dusting, mopping, sweeping, disposal of refuse).	

| | | e) observe safety when carrying out cleaning activities in the home to avert accidents, <br> f) care for cleaning materials and tools used at home for durability, <br> g) appreciate a clean home in promoting healthy living. | • Learners practice safety measures when carrying out cleaning activities in the home.

 • Learners care and store cleaning materials and tools used at home safely. | |

Core Competencies to be developed
- **Communication and Collaboration:** This is developed as learners practice cleaning in groups.
- **Critical Thinking and Problem Solving:** This is developed during improvisation of cleaning materials and tools.
- **Imagination and Creativity:** This is developed as learners make improvised cleaning materials and tools.

Pertinent and Contemporary Issues (PCIs) **Environmental Education:** - This is developed as learners take precautions when collecting materials used for improvisation. - This is developed as learners observe correct disposal of refuse. - This is developed during improvisation, cleaning and correct disposal of refuse by learners. **Preventive Health:** - This is developed as learners reduce pollutants through cleaning such as sprinkling water on the ground before sweeping to prevent too much dust in the air - This is developed as learners observe correct disposal of refuse. - This is developed as learners appreciate staying in a clean place.	**Values** • **Unity:** This is developed as learners work together. • **Responsibility:** This is developed as learners clean and takes care of the materials and tools. • **Respect:** This is developed as learners care for the environment during refuse disposal.
Links to other learning areas • **Science and technology:** As learners make improvised cleaning materials and tools.	• **Suggested community service learning activities** • Participate in community service activities which involve cleaning.

• **Indigenous languag**e: As learners identify cleaning materials and tools in the language used in the locality. • **Art and craft**: As learners make improvised cleaning materials and tools.	• Recite a poem on environmental conservation during parents' meetings and community awareness campaigns.

Suggested modes of assessment

Checklists, oral and written tests, group discussions, self and peer assessment, portfolio and observation.

Suggested Resources

Realia (such as brooms, brushes, mops, dusters), pictures/charts with appropriate colour contrast and size, audio-visual clips.

Assessment Rubric

Exceeding Expectation	Meeting Expectation	Approaching Expectation	Below Expectation
The learner is able to; • identify cleaning materials and tools used at home and model them,	The learner is able to; • identify cleaning materials and tools used at home,	The learner is able to; • identify some materials and tools used at home,	The learner; • has difficulty in identifying cleaning materials and tools used at home,
• make cleaning materials and tools used at home, using locally available resources while preserving the environment,	• make cleaning materials and tools used at home, using locally available resources,	• make a few cleaning materials and tools using locally available resources,	• with assistance, attempts to make cleaning materials and tools using locally available resources,
• describe and demonstrate the procedure of cleaning the home,	• describe the procedure of cleaning the home,	• misses some steps when describing the procedure of cleaning the home,	• has difficulties in describing the procedures of cleaning the home,

• use various procedures to clean the home and assist others in following the procedures step by step, • observe safety for self and others when carrying out cleaning activities in the home, • cares for cleaning materials and tools used at home and stores them appropriately .	• use various procedures to clean the home, • observe safety when carrying out cleaning activities in the home, • care for the cleaning materials and tools used at home.	• use some procedures to clean the home, • clean the home using some procedures safely, • cares for some cleaning materials and tools used at home.	• use the procedures to clean the home with assistance, • needs guidance in observing safety when using cleaning procedures, • needs assistance to care for cleaning materials and tools used at home.

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experience	Key Inquiry Question (S)
2.0 HEALTHY LIVING	2.3 Care and cleaning of shoes (8 lessons)	By the end of the sub- strand, the learner should be able to; a) identify different materials used for making shoes for familiarization, b) identify materials used for cleaning different types of shoes both, commercial and improvised for familiarization, c) describe the procedure of cleaning different types of shoes for learning, d) clean and store shoes made from different types of materials for familiarization, e) practice safety when cleaning different types of shoes for safety measures, f) clean equipment and store materials after cleaning shoes made from different materials for sustainability, g) appreciate the importance of wearing clean shoes for appropriate use.	• Learners identify different materials used for making shoes such as plastic, leather and canvas, by use of realia through observation and touch. • In pairs, learners discuss materials (commercial and improvised) used for cleaning different types of shoes. • Learners watch and listen to audio visual clips describing the procedure of cleaning different types of shoes. • In groups of mixed ability, learners explain the procedure of cleaning different types of shoes. • Learners clean and store shoes made from different materials appropriately. • In groups of mixed ability, learners practice safety when cleaning different types of shoes. • Learners clean used equipment and materials and store them appropriately, • Learners keep a daily record/log showing how often they clean their shoes.	1. Why are shoes made from different types of materials? 2. How do we clean shoes made from different materials? 3. Why do we put on clean shoes? 4. Why do we improvise materials for cleaning shoes?

Core competencies to be developed
Critical thinking and problem solving- This is developed during improvisation of the cleaning materials for cleaning shoes.
Communication and collaboration- This is developed when working in pairs and groups.
Creativity and imagination-This is developed when choosing and improvising cleaning materials where applicable.
Self-efficacy- This is developed when learners clean their own shoes.

PCIs	Values
Environmental Education- This is developed during disposal of used materials when cleaning shoes. **Financial Literacy-** This is developed during improvisation of cleaning materials.	**Unity:** This is developed as learners work together. **Responsibility:** This is developed as learners clean and store materials after cleaning shoes and also disposing off the cleaning water. **Honesty:** This is developed as learners store shoes after cleaning to avert theft.
Link to other learning areas Science and Technology- when using materials for cleaning shoes. Mathematics- in keeping the daily log/record.	**Suggested Community Service Learning** - Visit a market or cobbler to identify the different types of shoes. - Interact with a shoe shiner on cleaning of shoes.

Non-formal activities to support learning
Keeping of logs /record of how often they clean their shoes.

Suggested Modes of Assessment
Checklists, oral and written tests, group discussions, self and peer assessment, portfolio and observation.

Suggested resources
Realia (brushes, shoe polish, maize cobs) and audio-visual clips.

Assessment Rubric

Exceeding Expectations	Meeting Expectations	Approaching Expectations	Below Expectations
The learner is able to; • identify different materials used for making shoes and brings them to class, • identify materials used for cleaning different types of shoes, both commercial and improvised and brings samples of them to class, • describe and demonstrate the procedure of cleaning different types of shoes, • clean and store shoes made from different types of materials using correct procedure , • practice safety, for self and others, when cleaning different types of shoes, • clean and store materials used for cleaning different types of shoes and assist others.	The learner is able to; • identify different materials used for making shoes, • identify materials used for cleaning different types of shoes, both commercial and improvised, • describe the procedure of cleaning different types of shoes, • clean and store shoes made from different types of materials, • practice safety when cleaning different types of shoes, • clean and store materials used for cleaning different types of shoes.	The learner is able to; • identify a few materials used for making shoes, • identify only commercial materials used for cleaning different types of shoes, • describe to some extent, the procedure of cleaning different types of shoe, • clean and store some shoes made from different types of materials, • practice a few safety measures when cleaning different types of shoes, • clean and store some materials used for cleaning different types of shoes.	The learner; • has challenges in identifying materials used for making shoes, • has difficulties in identifying materials used for cleaning shoes, • has difficulties in describing the procedure of cleaning different types of shoes, • needs assistance to clean and store some shoes made from different types of materials, practices safety measures when cleaning some types of shoes, with assistance, • needs assistance in cleaning and storing materials used for cleaning different types of shoes.

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experience	Key Inquiry Question (S)
2.0 HEALTHY LIVING	2.4 Fuels used at home (8 lessons)	By the end of the sub strand, the learner should be able to; a) identify types of fuel used at home to facilitate cooking, lighting and heating,	• Learners identify types of fuel used at home (electricity, gas, firewood, charcoal, paraffin, solar, bio-gas). • Learners with low vision could use realia, charts/pictures with appropriate colour contrast and size while learners with blindness could be guided to manipulate the realia , tactile pictures/charts/diagrams. • In groups, learners discuss and state reasons for using various types of fuel at home.	1. Why do we use different types of fuels at home? 2. How do you conserve fuel at home? 3. How do you ensure safety while using fuel at home?
		b) state reasons for using various types of fuel at home for efficient cooking, lighting and heating,	• In groups of mixed ability, learners use and conserve fuels used at home ,	
		c) use and conserve fuels used at home to minimize wastage,	• In groups of mixed ability, learners practice safety when using fuels to avert accidents, • In groups of mixed ability, learners discuss the challenges faced when	

		d) practice safety when using fuels to avert accidents,	using different types of fuels used at home,	
		e) state the challenges faced when using different types of fuels at home,	• Learners sing a song on fuel conservation in the language of the catchment area. • Learners could also role play on safety precautions to be observed while using fuel at home.	
		f) appreciate the importance of conserving fuel at home to minimize wastage.		

Core Competencies to be developed
- **Communication and Collaboration:** This is developed during teamwork activities.
- **Critical thinking and problem solving:** This is developed as learners name and give reasons for using various types of fuel at home.
- **Creativity and Imagination;** This is developed as learners role play on safety precautions to observe when using fuel.

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

• **Environmental Education**:
    -The learner is able to conserve fuel.
 • **Disaster and risk reduction**
    -The learner is able to observe safety precautions while using fuel.
	• **Responsibility:** This is developed as the learner uses fuel sparingly.
	 • **Unity and patience:** This is developed as the learners work in groups.

Links to other learning areas	**Suggested community service-learning activities**
• **Science and technology:** When identifying types of fuels and in conservation of fuel. • **Languages:** When learning new words like conservation and fuel.	• Pay a visit to the school kitchen or an institution and observe the type of the fuel used and importance of conserving fuel. • Sensitize community members on safety measures while using fuels. • Sing a song in fuel conservation in the language of catchment area.

Suggested Non-Formal activities to support learning	Suggested modes of assessment
• Sing a song on fuel conservation in the language of catchment area.	debates, oral questions, self and peer assessment and observation.

Suggested resources
 Charts/pictures with appropriate colour contrast and size, tactile charts/pictures and diagrams, realia, (firewood, charcoal, gas, electricity, biogas), resource person.

Assessment Rubric

Exceeding Expectations	Meeting Expectations	Approaching Expectations	Below Expectations
The learner is able to; • identify and explain types of fuel used at home, • discuss reasons for using various types of fuel at home and guide others, • explain and demonstrate ways of conserving fuel at home, • mention and observe safety precautions while using fuel at home.	The learner is able to; • identify types of fuel used at home, • discuss reasons for using various types of fuel at home, • explain ways of conserving fuel at home, • mention safety precautions to be observed while using fuel at home.	The learner is able to; • identify a few types of fuel used at home, • discuss some reasons for using various types of fuel at home, • explain some ways of conserving fuel at home, • mention a few safety precautions to be observed while using fuel at home.	The learner; • has difficulties in identifying types of fuels used at home, • needs assistance to discuss reasons for using various types of fuel at home, • explain some ways of conserving fuel at home with guidance, • has challenges in mentioning safety precautions to be observed while using fuel at home.

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experience	Key Inquiry Question (S)
3.0 CONSUMER EDUCATION	**3.1 Consumer Awareness (3 lessons)**	By the end of the sub-strand, the learner should be able to; a) describe a shopping list used for buying items in order of priority, b) state the importance of a shopping list to a consumer to avoid impulse buying, c) identify places where one can shop in the locality for easy shopping , d) outline steps to follow when making a shopping to assist in shopping, e) prepare a shopping list for use at home to assist in shopping, f) shop using a shopping list for familiarization, g) appreciate the use of a shopping list for effective shopping.	• Learners describe a shopping list by brainstorming in groups. • In pairs, learners discuss the importance of a shopping list to a consumer. • Learners discuss places where one can shop in their locality through experience sharing, • In groups of mixed ability, learners discuss steps to follow when making a shopping list in order of priority. • In pairs, learners prepare a shopping list in order of priority. • Learners role play shopping using a shopping list.	1. Why do we make a shopping list? 2. How do we avoid impulse buying? 3. Why do we list items according to priority in a shopping list?
Core Competencies to be developed				
• **Critical Thinking and Problem Solving:** This is developed as learners prioritize items in a shopping list.				

• **Communication and Collaboration:** This is developed as learners share and work in pairs and groups. • **Creativity and Imagination:** This is developed as learners role play shopping using a shopping list. • **Self-Efficacy:** This is developed as learners prepare and use a shopping lists.	
Pertinent and Contemporary Issues (PCIs) • **Life skills:** The learner is able to make decisions in coming up with the necessities to include in a shopping list. • **Financial literacy:** The learner is able to make shopping lists to help reduce unwanted expenses.	**Values** • **Responsibility:** This is developed as learners make decisions and choices as they prepare shopping lists and use them to shop. • **Honesty:** This is developed as learners prepare and shop (using the right amount of money and bringing back the balance).
Links to other learning areas **Mathematics:** When allocating money to the different items on the list.	**Suggested community service-learning activities** • Participate actively in preparing the shopping list and assisting parents, guardians and peers in shopping.
Suggested Non-Formal activities to support learning • Recitation of items in the shopping list.	**Suggested modes of assessment** Checklists, oral and written tests, group discussions, self and peer assessment, portfolio and observation.
Suggested resources Shop corner and real currency	

Assessment Rubric

Exceeding expectations	Meeting expectations	Approaching expectations	Below expectations
The learner is able to; • describe and prepare a sample shopping list used for buying items, • state and explain the importance of a shopping list to a consumer, • identify places where one can shop in their locality and beyond, • outline steps to follow when making a shopping list in order of priority, • prepare a shopping list for use at home and assist others, • shop using a shopping list in their locality and beyond.	The learner is able to; • describe a shopping list used for buying items, • state the importance of a shopping list to a consumer, • identify places where one can shop in the locality, • outline the steps to follow when making a shopping list, • prepare a shopping list for use at home, • shop using a shopping list in the locality.	The learner is able to; • describe, to some extent, a shopping list used for buying items, • state some of the importance of a shopping list to a consumer, • identify a few places where one can shop in the locality, • outline some steps to follow when making a shopping list, • prepare a shopping list for use at home, including a few items, • shop using a shopping list in their locality, omitting some items.	The learner; • has difficulty in describing a shopping list used for buying items, • has challenges in stating the importance of a shopping list to a consumer, • needs assistance to identify places where one can shop in the locality, • needs guidance to outline steps to follow when making a shopping list, • list items in a shopping list leaving out prices, • shop without using a shopping list.

Strand	Sub strand	Specific learning outcomes	Suggested learning experience	Key inquiry question (s)
4.0 FOODS AND NUTRITION	**4.1 Choosing food (3 lessons)**	By the end of the sub-strand, the learner should be able to; a) list factors to consider when choosing food from a general grocery for appropriate shopping,	• Using different packages, learners in groups of visual ability discuss factors to consider when choosing food from a general grocery (packaging, correct weight, mass, freshness, expiry date, price for learners with low vision). • Learners with blindness are guided to manipulate the items and gauge the sizes, texture, weight.	1. Why do we shop from a general grocery? 2. How do we choose food from a general grocery?
		b) choose foods from a general grocery in their locality to enhance appropriate selection of items, c) appreciate the importance of choosing foods from grocery shops in the locality to enhance better shopping practices.	• Learners will role play choosing foods from a general grocery.	
Core Competencies to be developed				

Critical Thinking and Problem Solving: This is developed as learners make choices of food from a multiple perspective. **Communication and Collaboration:** This is developed as learners collaborate in the classroom as they role play **'**Choosing foods'. **Self-efficacy:** This is developed as learners select food items correctly.	
Pertinent and Contemporary Issues (PCIs) **Life skills:** The learner is able to acquire effective decision-making skills when choosing food from the general grocery. **Health Education**: This is developed as learners choose foods which have not expired, fresh, of correct weight, colour and texture.	**Values** **Responsibility:** This is developed as the learner chooses foods from the general grocery. **Integrity and honesty:** This is developed as the learner uses and returns the balance after shopping.
Links to other learning areas **Mathematics:** As the learner accounts for money used to buy food items. **Science and Technology:** As the learner chooses the correct and healthy foods. **Agriculture:** As the learner choose farm products such as vegetables, milk, fruits, cereals and eggs from a general grocery.	**Suggested community service-learning activities** - Assist parent or guardians in carrying out shopping from a general grocery. - Offering to help sell in the shop. - Skipping a rope singing songs on choosing different types of foods.
Suggested Non-Formal activities to support learning Skipping a rope singing songs on choosing different types of foods.	**Suggested modes of assessment** Checklists, oral and written tests, group discussions, observation, self and peer assessment and portfolio.
Suggested resources Packaging (cans, sachets, boxes, bottles, packets), shop corner and general grocery stores.	

Assessment Rubric

Exceeding expectations	Meeting expectations	Approaching expectations	Below expectations
The learner should be able to;	The learner should be able to;	The learner should be able to;	The learner;
• list factors to consider when choosing food from a general grocery and assists others in listing,	• list factors to consider when choosing food from a general grocery,	• list some factors to consider when choosing food from a general grocery,	List some factors to consider when choosing food from a general grocery with assistance,
• choose foods from a general grocery in their locality and beyond,	• choose foods from a general grocery in their locality,	• choose some foods from a general grocery in their locality,	Needs guidance in choosing some foods from a general grocery in their locality.

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experience	Key Inquiry Question (S)
4.0 FOODS AND NUTRITION	**4.2 Variety in the Diet (3 lessons)**	By the end of the sub-strand, the learner should be able to; a) identify foods available in the locality to ensure a balanced diet, b) state the functions of foods in the body for familiarization, c) classify food into groups according to their functions for healthy living, d) explain the importance of variety of foods in a diet for healthy living, e) select foods to make a healthy meal for healthy living, f) appreciate the importance eating a	• Learners identify foods available in the locality through experience sharing, realia, audio-visual clips, pictures/charts with appropriate colour contrast and size for learners with low vision. • Learners with blindness could use realia, audio-visual clips, tactile pictures and diagrams. • Learners state the functions of foods in the body. • In pairs learners use realia shop corner or assistive devices and technology to classify food according to their functions. • In groups of mixed ability, learners brainstorm on the importance of variety of foods in a diet. • In groups, learners select foods to make a healthy meal using realia, assistive devices and technology. • Learners with low vision could also use charts /pictures with appropriate colour contrast and size. Those with blindness could also use tactile pictures/charts.	1. How does food help our body? 2. Why do we need variety of foods in our diet? 3. Why do we eat a healthy diet?ss

| | | variety of foods in the diet for healthy living. | • In pairs, learners role play on selecting food to make a healthy diet using realia.
• Learners with blindness could be guided to use assistive devices and technology, tactile picture and charts while learners with low vision could use charts/pictures with appropriate colour contrast and size. | |

Core Competencies to be developed
- **Communication and Collaboration:** This is developed as learners discuss in groups.
- **Critical Thinking and Problem Solving:** This is developed as learners classify food into groups.
- **Self-Efficacy:** This is developed as learners choose and eat a variety of foods in a diet.

Pertinent and Contemporary Issues(PCIs) **Health Education:** The learner is able to acquire knowledge in nutrition by choosing a healthy diet.	**Values** • **Responsibility:** This is developed as the learner chooses variety foods for healthy living. • **Unity:** This is developed by the learner during role play. • **Respect:** This is developed as learners respect the others' choice of foods.
Links to other learning areas • **Agriculture:** Sources of food from plants and animals. • **Science and Technology:** In the classification of food groups according to their functions.	**Suggested Community Service-Learning activities** • Advocate for a healthy diet using locally available foods in school and at home for healthy living. • Learners sing songs on variety of foods.
Suggested Non-Formal activities to support learning • Learners sing songs on variety of foods.	**Suggested modes of assessment** Checklists, oral and written tests, group discussions, self-assessment, peer assessment, portfolio and observation.

Suggested resource
 Pictures/charts with appropriate colour contrast and size, tactile pictures/ charts, audio-visual clips, different food nutrients (carbohydrates, proteins, vitamins, mineral salts and water) and assistive devices and technology with appropriate software such as NVDA, JAWS and Dolphin pen.

Assessment Rubric

Exceeding Expectations	Meeting Expectations	Approaching Expectations	Below Expectations
The learner is able to; • identify foods available in the locality and beyond, • state and explain the functions of foods in the body, • classify foods into groups according to their functions and explain their functions in the body, • explains into details the importance of variety of foods in the diet for healthy living, • select foods to make a healthy meal and state the at which it is taken.	The learner is able to; • identify foods available in the locality, • State the functions of foods in the body, • classify food into groups according to their functions, • explain the importance of variety of foods in the diet for healthy living, • select foods to make a healthy meal.	The learner is able to; • identify some foods available in the locality, • State some of the functions of foods in the body, • Classify a few groups of foods according to their functions, • Explain a few of the importance of variety of foods in the diet for healthy living, • select some foods to make a healthy meal.	The learner; • has challenges in identifying foods available in the locality, • has difficulties in stating functions of foods in the body, • classify a few groups of foods according to their functions with assistance, • has challenges in explaining importance of variety of foods in the diet for healthy living, • needs guidance to select foods to make a healthy meal.

Strand	Sub strand	Specific learning outcomes	Suggested learning experience	Key inquiry question (s)
4.0 FOODS AND NUTRITIO N	**4.3 Preservation of milk (4 lessons)**	By the end of the sub-strand, the learner should be able to; a) identify sources of milk in the locality for awareness of the sources, b) state the reasons for preserving milk for healthy living, c) explain the methods of preserving milk in the locality for concept development, d) use different methods to preserve milk to enhance healthy living, e) practice food hygiene when using different methods to preserve milk to enhance health, f) appreciate the importance of preserving milk for healthy living.	• In groups of mixed ability, learners brainstorm on the sources of milk in their locality (such as cow, goat sheep, camel) and identify them, • In groups of mixed ability, learners discuss the reasons for preserving milk. • Learners explain methods of preserving milk in the locality (boiling, fermenting, home cooling and refrigeration). • Learners listen to and observe a resource person demonstrating and explaining methods of preserving milk. • In groups of mixed ability, learners use different methods to preserve milk. • Learners practice food hygiene when using different methods to preserve milk.	1. How do we get milk that we use at home? 2. Why do we preserve milk? 3. How do we preserve milk?
Core Competencies to be developed				

Communication and collaboration: This is developed as learners engage in group discussions. **Critical thinking and problem solving:** This is developed as learners discuss the importance of preserving milk. **Creativity and imagination:** This is developed as learners use different methods to preserve milk. **Digital literacy:** This is developed as learners, access information on importance and methods of preserving milk using digital devices. **Self-efficacy:** This is developed as learners preserve milk at home.	

Pertinent and Contemporary Issues (PCIs)	**Values**
Health Education: The learner is able to practice hygiene in preserving milk. **Peer Education:** The learner is able to practice peer education on nutrition.	**Responsibility:** This is developed as the learner uses different methods to make milk last longer. **Cooperation:** This is developed as the learners work in groups.
Links to other learning areas	**Suggested community service-learning activities**
Science and Technology: In the scientific principles on the various methods used to preserve milk. **Agriculture:** As learners learn on sources of milk. **English:** Learning of vocabularies such as preservation.	- Assist parents or guardians in preserving milk at home. - Visit a farm or firm to observe various ways of preserving milk. - Sensitize people on different methods of preserving milk.
Suggested Non-Formal activities to support learning	**Suggested modes of assessment**
Learners sing a song on milk.	Checklists, oral and written tests, group discussions, self and peer assessment, portfolio, demonstration and observation.

Suggested resources

 Milk, pictures/charts with appropriate colour contrast and size, tactile pictures/charts, audio-visual clips, utensils, kitchen equipment and appliances, milk preservation items(pots, guards, basin, water, muslin cloth), milk plants and resource person.

Assessment Rubric

Exceeding Expectations	Meeting Expectations	Approaching Expectations	Below Expectations
The learner is able to; • identify a variety of sources of milk in the locality,	The learner is able to; • identify sources of milk in the locality,	The learner is able to; • identify some sources of milk in the locality,	The learner; • has difficulty in identifying sources of milk in the locality,
• state and explain the reasons of preserving milk,	• state the reasons for preserving milk,	• state some of the reasons of preserving milk.,	• has challenges in stating the reasons of preserving milk,
• explain and demonstrate the methods of preserving milk in the locality,	• explain the methods of preserving milk in the locality,	• explain some of the methods of preserving milk in the locality,	• has difficulty in explaining the methods of preserving milk in the locality,
• use and demonstrate to peers different methods of preserving milk,	• use different methods to preserve milk,	• use a few of the given methods to preserve milk,	• with assistance, uses a few methods of preserving milk,
• practice food hygiene when using different methods to preserve milk and assist other.	• practice food hygiene when using different methods to preserve milk.	• practice some food hygiene when using different methods to preserve milk.	• needs assistance in observing food hygiene when using different methods to preserve milk.

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experience	Key Inquiry Question (S)
4.0 FOODS AND NUTRI TION	**4.4Fragile Kitchen utensils (6 Lessons)**	By the end of the sub-strand, the learner should be able to; a) state the uses of fragile kitchen utensils used at home for proper use, b) identify fragile kitchen utensils used at home for proper care, c) identify materials used for cleaning fragile kitchen utensils at home to enhance safety, d) clean, dry and store fragile kitchen utensils used at home for proper care,	• In groups of mixed ability, learners state the uses of various fragile kitchen utensils used at home (preparation, cooking, serving and eating). • Learners identify fragile kitchen utensils used at home using realia, experience sharing, picture/charts with appropriate colour contrast for learners with low vision and tactile pictures for learners with blindness. • In groups of mixed ability, learners identify materials used for cleaning fragile kitchen utensils at home from realia, charts/pictures with appropriate colour contrast for learners with low vision and tactile pictures for learners with blindness. • Learners to listen to and observe a resource person demonstrating and explaining	1. Why do we use various kitchen utensils at home? 2. Why do we observe precaution while handling fragile kitchen utensils? 3. How do you clean, dry and store fragile kitchen utensils used at home?

			on cleaning, drying and storing fragile kitchen utensils.	
		e) observe precautions when cleaning fragile kitchen utensils for safety,	• In groups of visual ability, learners clean, dry and store fragile kitchen utensils used at home. • Learners with blindness could be guided by their peers with vision.	
		f) appreciate the use of kitchen utensils at home for motivation.	• Learners observe precautions when cleaning fragile kitchen utensils (cleaning, drying and storage). • Recite a poem on care of fragile utensils.	

Core Competencies to be developed
- **Communication and collaboration:** This is developed during group discussions.
- **Creativity and critical thinking:** This is developed as learners identify fragile items and cleaning materials.
- **Self-efficacy:** This is developed as learners clean, dry and store fragile utensils without breaking them.

Pertinent and Contemporary Issues (PCIs	Values
• **Environmental Education:** The learner is able to practice proper drainage and disposal of water used after cleaning utensils. • **Health Education:** The learner is able to use clean utensils. • **Learner Support Programme**s: The learner is able to practice peer education on cleaning kitchen utensils.	• **Responsibility:** This is developed as the leaner takes good care of fragile utensils. • **Unity:** This is developed as the learners work in groups.

• **Links to other learning areas** • **Science and technology:** This is developed as learners are guided to understand that fragile utensils such as water glasses expand and break when exposed to high temperatures like hot water and vise vasa. • **English:** Learning vocabulary like 'fragile'.	**Suggested community service-learning activities** • Participate in house hold chores like cleaning utensils at home or in an institution. • Learners recite a poem on care of fragile utensils during parents' meeting.
Suggested Non-Formal activities to support learning • Learners recite a poem on care of fragile utensils.	**Suggested modes of assessment** Checklists, oral and written tests, group discussions, self-assessment, peer-assessment, portfolio and observation.
Suggested resources Pictures/charts with appropriate colour contrast and size, tactile pictures /charts, realia (ash, dry leaves, sisal, sand, kitchen utensils) and a resource person.	

Assessment Rubric

Exceeding Expectations	Meeting Expectations	Approaching Expectations	Below Expectations
The learner is able to; • state and explain the uses of fragile kitchen utensils at home, • identify fragile kitchen utensils at home and assist others in identification,	The learner is able to; • state the uses of fragile kitchen utensils at home, • identify fragile kitchen utensils at home,	The learner is able to; • state some of the uses of fragile kitchen utensils at home, • identify some fragile kitchen utensils at home,	The learner has; • has difficulties in stating the uses of fragile kitchen utensils at home, • has challenges in identifying fragile kitchen utensils.

• Identify and improvise some materials used for cleaning fragile kitchen utensils at home, • clean, dry and store fragile kitchen utensils used at home while observing safety, • observe precautions when cleaning fragile kitchen utensils and assist others.	• identify materials used for cleaning fragile kitchen utensils at home, • clean, dry and store fragile kitchen utensils used at home, • observe precautions when cleaning fragile kitchen utensils.	• identify a few materials used for cleaning fragile kitchen utensils at home, • clean, dry fragile kitchen utensils used at home, • observe some safety precautions when cleaning fragile kitchen utensils.	• has difficulties in identifying materials used for cleaning fragile kitchen utensils. • Clean fragile kitchen utensils with assistance, • Has difficulties in observing safety precautions when cleaning fragile kitchen utensils.

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experience	Key Inquiry Question(S)
4.0 FOODS AND NUTRITION	4.5Cooking Food (15 lessons)	By the end of the sub strand, the learner should be able to; a) state reasons for cooking food for effective cooking, b) explain food hygiene practices to observe when cooking food to enhance healthy living,	• Learners brainstorm on reasons for cooking food. • In groups, learners discuss food hygiene practices to observe when cooking food using audio-visual clips and experience sharing.	1. Why do we cook food? 2. Why do we observe safety precautions when cooking food? 3. How do we cook food?

			• Learners with low vision could also use pictures/charts with appropriate colour contrast and size as learners with blindness use tactile pictures/charts.	
		c) state safety precautions to observe when cooking food to avert accidents,	• Learners state safety precautions to observe when cooking food.	
		d) explain methods of cooking food for appropriate cooking,	• Learners watch and listen to audio-visual clip. • Learners with low vision observe demonstration at close range as learners with blindness are given one -on – one and hand-on demonstration on methods of cooking food (boiling, shallow frying).	
		e) cook food using different methods for mastery of the skills,	• In groups of mixed ability and visual ability, learners cook food using different methods (boiling, shallow frying) with teacher's guidance.	

		f) appreciate cooking food using different methods to stimulate interest.		

Core Competencies to be developed
- **Communication and collaboration:** This is developed during group activities.
- **Critical thinking and problem solving:** This is developed as learners observe and practice hygiene and safety measures when cooking food.
- **Creativity and imagination:** This is achieved as learners cook different foods.
- **Citizenship:** This is developed as learners promote varied cultures.

Pertinent and Contemporary Issues (PCIs)	**Values**
• **Disaster and Risk Reduction:** Learners observe safety precautions while cooking foods. • **Patriotism:** Learners promote indigenous foods.	• **Respect:** This is developed as the learner embraces foods from different communities. • **Responsibility:** This is developed as the learner takes care while handling cooking items.
• **Links to other learning areas** • **Science and Technology:** Conservation of energy while cooking. • **Agriculture:** sources of food.	**Suggested community service-learning activities** • Visit the community food vendors and observe how they prepare foods. • Play singing games on types of food for recreation purpose.
Suggested Non-Formal activities to support learning: • Play singing games on types of food for recreation purpose.	**Suggested modes of assessment** oral and questions, observation, self and peer assessment.

Suggested resources
Kitchen equipment and materials (Sufurias, wooden spoons, knives), assorted food items (meat, ugali, green leafy vegetables), resource person, fuels, tactile charts/pictures, charts/pictures with appropriate colour contrast and size and audio-visual clips.

Assessment Rubric

Exceeding Expectations	Meeting Expectations	Approaching Expectations	Below Expectations
The learner is able to; • state and explain reasons for cooking food, • discuss hygiene practices to observe when cooking food and guide others, • state and explain safety precautions to observe when cooking food, • explain and demonstrate methods of cooking food, • cook food using different methods and serve.	The learner is able to; • state reasons for cooking food, • discuss hygiene practices to observe when cooking food, • state safety precautions to observe when cooking food, • explain methods of cooking food, • cook food using different methods.	The learner is able to; • state some reasons for cooking food, • discuss some hygiene practices to observe when cooking food, • state some safety precautions to observe when cooking food, • explain some methods of cooking food, • cook food using different methods.	The learner; • has challenges in stating reasons for cooking food, • has difficulties in discussing hygiene practices to observe when cooking food, • has difficulties in stating safety precautions to observe when cooking food, • needs assistance in explaining methods of cooking food, • cook food using some methods with guidance.

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experience	Key Inquiry Question (S)
5.0 CLOTHING	**5.1.1 Needlework tools -sewing (5 lessons)** For learners with low vision	By the end of the sub strand, the learner should be able to; a) identify various tools used in needlework for mastery of the tools, b) use basic needlework tools in sewing for practice, c) improvise basic needlework tools when sewing to enhance creativity, d) practice safety measures while using the needlework tools for efficient performance of needlework, e) store needlework tools for safety and durability, f) appreciate use of needlework tools for safety	• Learner identifies various tools used in needlework from realia, video clips, picture/charts with appropriate colour contrast and size, • Learners listen to and watch demonstration from a resource person on use of basic needlework tools, • In pairs, learners practice using basic needlework tools, • Learners improvise needlework tools used in needlework, • Learners practice safety while using the needlework tools, • Learners store needlework tools. • Learners sing a song when sewing in the language of the catchment area.	1. How do we use needlework tools? 2. Why do we observe safety measures while using needlework tools? 3. How should we store needlework tools?

Core Competencies to be developed
- **Creativity and Imagination :** This is developed as learners improvise sewing tools.
- **Communication and collaboration:** This is developed during teamwork activities.
- **Learning to learn:** This is developed in group activities as learners use sewing tools.

Pertinent and Contemporary Issue (PCIs)	Values
• **Safety:** The learner is able to use and store sewing tools. • **Career Guidance:** The learner is able to watch demonstrations and practice use of sewing tools.	• **Responsibility:** This is developed as the learner uses and stores the sewing tools appropriately. • **Unity:** This is developed the learners work together.
Links to other learning areas • **Mathematics:** As learners take measurements using rulers and tape measures, and cutting different shapes. • **English:** As learners learn different vocabularies like needle, sew and thimble. • **Art and craft:** as learners use different colours of thread and materials for aesthetic value.	**Suggested Community Service-Learning Activities** • Visit the nearby tailoring shop to observe the use of the above sewing tools. • Sing a song when using needlework tools.
Suggested Non-Formal activities to support learning • Sing a song when sewing in the language of the catchment area.	**Suggested modes of assessment** Exhibitions, observation, critiques, portfolio, self and peer assessment and demonstration.

Suggested resources
 Sewing needles, scissors, tape measure, ruler, pins, thimbles, seam rippers, safety pins, sewing yarn, pictures, charts, video clips and resource person.

Assessment Rubric

Exceeding Expectations	Meeting Expectations	Approaching Expectations	Below Expectations
The learner is able to; • identify various tools used in needlework and state their uses, • use and guide others on how to use various needlework tools, • improvise basic needlework tools and use them, • practice safety measures while using needlework tools and assist others in observing safety measures, • store basic needlework tools according to their uses for safety.	The learner is able to; • identify various tools used in needlework, • use basic needlework tools in sewing, • improvise basic needlework tools when sewing, • practice safety measures while using the needlework tools, • store basic needlework tools for safety.	The learner is able to; • identify some tools used in needlework, • use a few needlework tools in sewing, • improvise some basic needlework tools when sewing, • practice minimal safety measures while using needlework tools, • store some basic needlework tools for safety.	The learner; • identifies some tools used in needlework with difficulties, • uses some needlework tools with guidance, • improvise some basic needlework tools with guidance, • practice safety measures while using needlework tools with assistance, • has difficulties in storing basic needlework tools.

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experience	Key Inquiry Question(S)
5.0 CLOTHING	**5.1.2 Needle work tool - knitting (5 lessons)** For learners who are blind	By the end of the sub strand, the learner should be able to; a) identify various tools used in knitting for familiarization,	• Learner identifies various tools used in knitting from realia ,audio clips and tactile pictures/charts,	1. How do we use the different types of knitting tools?
		b) use basic knitting tools for practice,	• Learners are guided by a resource person to use basic knitting tools through one-on- one and hands-on demonstration,	2. Why do we observe safety measures while using the knitting tools?
		c) improvise basic knitting tools when knitting to promote creativity,	• Learner improvise basic knitting tools using locally available materials,	3. How do we store knitting tools?
		d) practice safety measures while using knitting tools to prevent accidents,	• Learner practices safety measures while using the knitting tools.	
		e) store knitting tools appropriately for safety,	• Learner stores knitting tools appropriately for safety.	
		f) appreciate use of knitting tools to encourage acquisition of knitting skills.		

Core Competencies to be developed:	
Creativity and Imagination: This is developed as learners improvise knitting tools. **Communication and collaboration:** This is developed during teamwork activities. **Learning to learn:** This is developed in group activities as learners use knitting tools.	
Pertinent and Contemporary Issues (PCIs) **Disaster Risk Reduction:** The learner is able to use and store knitting tools appropriately.	**Values** **Responsibility:** This is developed as the learner uses and stores the knitting tools appropriately. **Unity:** This is developed as learners work together.
Links to other learning areas **Mathematics:** As the learner is casting on stitches and counting them. **English:** As the learner defines different vocabulary like knitting and casting on.	**Suggested community service-learning activities** • Visit the nearby knitting shop to observe the use of the above knitting tools. • Sing a song when identifying knitting.
Suggested Non-Formal activities to support learning • Sing a song when knitting in the language of the catchment area.	**Suggested modes of assessment** Exhibitions, observation, critiques, portfolio, self and peer assessment and demonstrations.
Suggested resources Knitting needles, scissors, tactile tape measure, tactile ruler, knitting yarns, pair of scissors, audio clips and resource person.	

Assessment Rubric

Exceeding Expectations	Meeting Expectations	Approaching Expectations	Below Expectations
The learner is able to; • identify various tools used knitting and state their uses, • use and guide others in using various knitting tools, • improvise basic knitting tools and use them, • practice safety measures while using knitting tools and assist others, • store basic knitting tools according to their uses.	The learner is able to; • identify various tools used in knitting, • use basic knitting tools in sewing, • improvise basic knitting tools, • practice safety measures while using the knitting tools, • store basic knitting tools.	The learner is able to; • identify some tools used in knitting, • use a few knitting tools in knitting and sewing, • improvise some basic knitting tool, • practice minimal safety measures while using knitting tools, • store some basic knitting tools.	The learner; • has challenges in identifying tools used in knitting, • has difficulties in using basic knitting tools in sewing, • has difficulties in improvising basic knitting tools, • practice some safety measures while using knitting tools with guidance, • store basic knitting tools with assistance.

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experience	Key Inquiry Question (S)
5.0 CLOTHING	**5.2.1 Stitches (9 lessons) For low vision**	By the end of the sub strand, the learner should be able to; a) identify stitches as used in clothes for familiarization,	• Learner identifies stitches in clothes using realia, video clips and charts/pictures with appropriate colour contrast and font size.	1. How do you sew using a needle? 2. Why do we use stitches in making cloths?
		b) state the uses of stitches in clothes for content mastery,	• Learner states the uses of stitches on clothes.	
		c) practice threading a needle before sewing for refining the skill,	• Learners are guided by a resource person to practice threading a needle before sewing through one on one demonstration.	
		d) practice using a needle during sewing for further skill development,	• Learners are guided to practice using a needle during sewing through one on one demonstration.	
		e) apply tacking stitches on a piece of cloth for skill development.	• Learners are guided to apply tacking on a piece of cloth through demonstration by a resource person.	
		f) observe safety precautions during needlework to avoid accidents,	• Learner are guided to observes safety during sewing.	

		g) appreciate the use of tacking stitches in clothes for appropriate application of the skill.		

Core Competencies to be developed:
Communication and Collaboration: This is developed as the learners work together.
Creativity and Imagination: This is developed through practicing various stitches.
Learning to Learn: This is developed as learners share knowledge in making different stitches.

Pertinent Contemporary Issues (PCIs)	**Values**
Disaster Risk Reduction: As learners take precautions while using sewing needles.	• **Responsibility:** This is developed as the learner observes safety before and during sewing. • **Unity:** This is developed as learners practice peer teaching.
Links to other learning areas **Mathematics:** As the learner takes measurements during sewing. **Art and Craft:** As the learner uses different colours of threads during sewing.	**Suggested community service-learning activities** • Visit the nearby tailoring shop to observe sewing using tacking stitches. • Story telling on sewing.
Suggested Non-Formal activities to support learning • Story telling on sewing.	**Suggested modes of assessment** Observation, critiques, checklist, portfolio, oral and written tests, self and peer assessment and demonstration.
Suggested resources Resource person, sewing needles, piece of cloth, ruler, sewing threads, tape measure, pair of scissors, pins and thimble, video clips, charts/pictures with appropriate colour contrast and size.	

Assessment Rubric

Exceeding Expectations	Meeting Expectations	Approaching Expectations	Below Expectations
The learner is able to; • identify and explain stitches as used in making clothes, • states and explain the uses of stitches in making clothes, • practice threading a needle before sewing and helps others, • practice using a needle during sewing and helps others, • apply tacking stitches on pieces of cloth and helps others, • observe safety precaution during needlework and helps others.	Learner is able to; • identify stitches as used in making clothes, • state the use of stitches in making clothes, • practice threading a needle before sewing, • practice using a needle during sewing, • apply tacking stitches on a piece of cloth, • observe safety precautions during needlework.	Learner is able to; • identify a few stitches as used in making clothes, • state some uses of stitches in making clothes, • practice threading of a needle before sewing but misses the hole, • practice using a needle during sewing, pricking his/her finger, • apply a few tacking stitches on a piece of cloth, • observe a few safety precautions during needlework.	The learner; • has challenges in identifying stitches as used in making clothes, • has difficulties stating the uses of stitches in making clothes, • has challenges in threading a needle before sewing, • uses a needle during sewing with assistance, • applies tacking stitches on a piece of cloth with assistance, • observes safety precautions during needlework with guidance.

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experience	Key Inquiry Question
5.0	**5.2.2 Stitches (9 lessons) For blind**	By the end of the sub strand, the learner should be able to; a) identify stitches as used in knitted articles for familiarization, b) state the uses of stitches on knitted articles for concept mastery, c) practice casting on using knitting needles to acquire skills, d) practice knitting and purling stitches to perfect their skills in knitting, e) apply knitting and purling stitches to make knitted articles to refine their skill in knitting,	• Learner names and identifies stitches using realia and audio-visual clips. • Learner states the uses of stitches on a knitted article. • Learners interact through one on one demonstration with a resource person in practicing casting on. • Learners are guided by a resource person through one on one demonstration to practice knitting and purling stitches to perfect their skills in knitting, • In groups, learners apply knitting and purling stitches to make a knitted article with guidance from resource person.	1. Why do we use sewing tools when making basic stitches? 2. How do you start knitting? 3. How do you end knitting?

		f) practice casting off to acquires,	• Learners interact on one to one with resource person in practicing casting off.	
		g) observe safety precautions during knitting to avert accidents,		
		h) appreciate the use of knitting and purling stitches in making an article to stimulate their interest.	• Learners are guided to practice safety measures during knitting.	

Core Competencies to be developed
- **Communication and Collaboration:** This is developed as the learners work together.
- **Creativity and Imagination:** This is developed through practicing various knitting stitches.
- **Learning to Learn:** This is developed as learners share knowledge in making different knitting stitches.

Pertinent and Contemporary Issues (PCIs)	**Values**
• **Disaster Risk Reduction:** As learners take precautions while using knitting needles. • Career Guidance: as learners acquire skills or future career guidance.	**Responsibility:** This is developed as the learner observes safety during knitting. **Unity:** This is developed as learners practice peer teaching.

Links to other subjects	**Suggested community service-learning activities**
• **Mathematics:** As the learner counts stitches and measures during knitting. • **Art and Craft:** As the learner uses different colours of yarns in making articles during knitting.	• Visit the nearby tailoring shop to observe knitting. • Story telling on knitting.

Suggested Non-Formal activities to support learning	**Suggested Assessment Modes**
• Story telling on knitting.	Observation, critiques, checklist, portfolio, oral and written tests, self and peer assessment and demonstration.

Suggested resources
 Resource person, knitting needles, tactile ruler, knitting yarns, tactile tape measure and scissors.

Assessment Rubric

Exceeding Expectations	Meeting Expectations	Approaching Expectations	Below Expectations
The learner is able to; • Identify and explain stitches as used in knitted articles, • state and explain the uses of stitches in knitted articles, • practice casting on using knitting needles and help others, • practice knitting using knitting needles and help others. • practice knitting and purling stitches, • apply very neat knitting stitches to make an article, • practice casting off of stitches and help others,	The learner is able to; • identify stitches as used in a knitted article, • state the uses of stitches on knitted articles, • practice casting on using knitting needles, • practice using knitting needles. • practice knitting and purling stitches, • apply knitting stitches to make an article, • practice casting off of stitches,	The learner is able to; • identify a few stitches as used in knitted articles, • state a few uses of stitches used in a knitted article, • practice casting on using knitting needles leaving out some details, • practice knitting using knitting needles missing out on some stitches, • practice knitting and purling stitches, • apply loose knitting stitches to make an article, • practice casting off with a few errors,	The learner; • has challenges in identifying basic knitting stitches used in knitted articles, • has difficulties in stating the uses of stitches on knitted articles, • practices casting on using knitting needles with assistance, • practices using knitting using knitting needles with guidance, • practices knitting and purling stitches with assistance, • has difficulties applying knitting stitches to make an article, • practices casting off of stitches with assistance,

• observe safety precautions during knitting and help others .	• observe safety precautions during knitting.	• observe some safety precautions when knitting.	• observes safety precautions when knitting with guidance.

Strand	Sub- Strand	Specific Learning Outcomes	Suggested Learning Experience	Key Inquiry Question (S)
5.0 CLOTHING	**5.3 Fixing a button (3 lessons)**	By the end of the sub strand, the learner should be able to; a) mention factors to consider when choosing a button to fix on a garment, b) choose the right button to fix on a garment, c) fix the button on a garment for learning repair,	• Learners mention factors to consider when choosing button to fix on a garment, • Learner chooses the right button to fix on a garment using real buttons. • Learners with blindness could be guided to choose according to size, shape and texture while those with low vision choose according to size, shape and colour, • Learner interacts with a resource person on the best way to fix a button. • Learners with low vision observe the resource person at close range during demonstration as those with blindness are given through one-on-one and hands-on demonstration.	1. Why do we fix buttons on our garments? 2. How do you fix a button? 3. Why do we observe safety precautions when fixing buttons on a garment?

| | | d) practice safety while fixing a button on a garment to avoid accidents, <br> e) appreciate a well fixed button on a garment for repair. | • Learners are guided to observe safety measures while fixing a button on a garment. | |

Core Competencies to be developed
Self-Efficacy: This is developed as learners practice fixing a button.
Critical Thinking and Problem Solving: This is developed as learners choose the right button to fix on a garment.
Communication and Collaboration: This is developed as learners work together in pairs and in groups.

Pertinent and Contemporary Issues (PCIs) **Safety**: Learners observe as they use sewing tools. **Personal Hygiene:** The learner enhances personal appearance..	**Values:** **Responsibility**: This is developed as the learner practices to fix own buttons independently. **Unity**: This is developed as learners practice peer teaching.
Links to other learning areas **Mathematics:** As the learner identify number of buttons to be fixed and also number of button holes in order to determine mode of fixing. **Art and craft:** As the learner chooses proper colour, shape and texture in matching the button with the garment.	**Suggested community service-learning activities** • Sensitize other pupils in school on how to fix buttons on garments • Learners tell stories on repair of clothes.
Suggested Non-Formal activities to support learning • Learners tell stories on repair and maintenance of clothes.	**Suggested Assessment Modes** Checklist, critique, observation, oral and written questions, self and peer assessment.

Suggested resources
 Sewing tools (needles, tape measures, rulers) and materials(yarn, fabrics, different buttons)**.**

Assessment Rubric

Exceeding Expectations	Meeting Expectations	Approaching Expectations	Below Expectations
The learner is able to; • mention and explain factors consider when choosing a button to fix on a garment, • choose and fix the right button on a garment, • firmly fixes a button on a garment, • practice and demonstrate safety measures while fixing a button on a garment.	The learner should be able to; • mention factors to consider when choosing a button to fix on a garment, • choose the right button to fix on a garment, • fix a button on a garment, • practice safety measures while fixing a button on a garment.	The learner should be able to; • mention some factors to consider when choosing a button to fix on a garment, • choose a few buttons to fix on a garment, • loosely fixes a button on a garment, • practices some safety measures while fixing a button on a garment.	The learner; • has difficulty in mentioning factors to consider when choosing a button to fix on a garment, • has difficulties in choosing buttons to fix on a garment, • fixes a button with assistance, • practice safety measure while fixing a button on a garment with guidance.

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experience	Key Inquiry Question (S)
5.0 CLOTHING	5.4 Laundry work (12 lessons)	By the end of the sub-strand, the learner should be able to; a) state reasons why laundry work is important in care of personal items, b) identify resources required for carrying out laundry work, c) describe the steps of laundering different personal items to enhance learning,	• In groups of mixed ability, learners discuss reasons why laundry work is important in care of personal items, • Learner brainstorms on the resources required for carrying out laundry work, • Learners with low vision watch and listen to audio-visual clip on steps to follow when laundering different personal items (mending, sorting, soaking, washing, rinsing, drying, ironing, airing and storage). • Learners with blindness listen to audio-visual clip on the same. They could also be guided by a resource person on steps to be followed when laundering different personal items, • In pairs, learners discuss steps followed when laundering different personal items,	1. Why is laundry work important in taking care of personal items? 2. Why do we follow correct steps when laundering different personal items? 3. How do we take care of the resources used in laundry work?

		d) practice laundering of different personal items for mastery of the skills,	• Learners interact with a resource person through one to one and hand-on demonstration on laundering different personal items (handkerchief, white and coloured, socks, stocking and inner wears.)	
		e) observe safety while laundering personal items to avert accidents,	• Learners practice laundering of different personal items (handkerchief – white and coloured, socks, face towels, stockings and inner wears).	
		f) care and store laundry equipment and materials for safety and durability,	• Learners watch and listen to audio visual clip and demonstration on safety when laundering personal items,	
		g) appreciate properly laundered personal items to enhance personal hygiene.	• Learners care and store laundry equipment and materials.	

Core Competencies to be developed
Communication and collaboration: This is developed as learners work together in pairs and groups.
Critical Thinking and Problem Solving: This is developed as learners use laundry materials.
Self- Efficacy: This is developed as learners launder personal items.

Pertinent and Contemporary Issues (PCIs)	**Values**
• **Health Education:** promotes healthy living by using clean and neat personalbitems.	• **Responsibility:** This is developed as learners care for personal items.
	• **Unity:** This is developed as learners work in pairs and groups.
• **Links to other subjects**	**Suggested community service-learning activities**

• **Science and Technology:** As the learner uses detergents in cleaning of personal items. • **English:** As the learner learns different vocabulary like detergent and laundry. • **Mathematics:** As learners use correct amount of water and detergent.	• Learners sensitize their immediate peers to participate in washing of personal items. • Sing a song on detergents while washing.
Suggested Non-Formal activities to support learning • Sing a song on detergents.	**Suggested Mode of assessments** Observation, checklist, critique, oral and written questions, self and peer assessment and demonstration.
Suggested resources Resource person, laundry resources, handkerchief (white and coloured), socks, stockings, innerwear, face towels and audio visual clips.	

Assessment Rubric

Exceeding Expectations	Meeting Expectations	Approaching Expectations	Below Expectations
The learner is able to; • State and explain reasons why laundry work is important in care of personal items, • identify and explain resources required for carrying out laundry work,	The learner is able to; • state reasons why laundry work is important in care of personal items, • identity resources required for carrying out laundry work,	The learner is able to; • state some reasons why laundry work is important for personal items, • identify a few resources required for carrying out laundry work,	The learner; • has challenges in stating reasons why laundry work is important for personal item, • has difficulties in identifying resources required for carrying out laundry work,

• describe and follow the steps of laundering different personal items, • practice and assist other in laundering of different personal items, • observe safely while laundering personal items and guide others on the same, • care for and store cleaning equipment and materials.	• describe the steps of laundering different personal items, • practice laundering different personal items, • observe safety while laundering personal items, • care for cleaning equipment and materials.	• describe minimal steps of laundering personal items, • practice laundering of minimal personal items, • observe a few safety measures on laundering personal items, cares for some cleaning materials.	• has difficulties in describing the steps of laundering personal items, • practice laundering different personal items with guidance, • observe some safety measures on laundering personal items with guidance, • needs assistance in caring for cleaning materials.

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experience	Key Inquiry Question (S)
4.0 CLOTHING	**4.2.1 Stitches (9 lessons)** **For low vision**	By the end of the sub strand, the learner should be able to; h) identify stitches as used in clothes for familiarization, i) state the uses of stitches in clothes for content mastery, j) practice threading a needle before sewing for refining the skill, k) practice using a needle during sewing for further skill development, l) apply tacking stitches on a piece of cloth for skill development. m) observe safety precautions during needlework to avoid accidents, n) appreciate the use of tacking stitches in clothes for appropriate application of the skill.	• Learner identifies stitches in clothes using pictures, realia, video clips and charts. • Learner states the uses of stitches on clothes. • Learner practices threading a needle before sewing. • Learner practices using a needle during sewing • Learner applies tacking on a piece of cloth. • Learner observes safety during sewing.	1. How do you sew using a needle? 2. Which stitches are used in making cloths?

Core Competencies to be developed:
Communication and Collaboration: This is developed as the learners work together.
Creativity and Imagination: This is developed through practicing various stitches.
Learning to Learn: This is developed as learners share knowledge in making different stitches.

Pertinent Contemporary Issues (PCIs)	Values
Disaster Risk Reduction: As learners take precautions while using sewing needles.	• **Responsibility:** This is developed as the learner observes safety before and during sewing.

	• **Unity:** This is developed as learners practice peer teaching.
Links to other subjects **Mathematics:** As the learner takes measurements during sewing. **Art and Craft:** As the learner uses different colours of threads during sewing.	**Suggested community service-learning activities** • Visit the nearby tailoring shop to observe sewing using tacking stitches. • Story telling on sewing.
Suggested Non-Formal activities to support learning • Story telling on sewing.	**Suggested modes of assessment** Observation, critiques, checklist, portfolio, oral and written tests, self and peer assessment and demonstration.
Suggested resources Resource person, sewing needles, piece of cloth, ruler, sewing threads, pictures, charts, video clips, tape measure, pair of scissors, pins and thimble.	

Assessment Rubric

Exceeding Expectations	Meeting Expectations	Approaching Expectations	Below Expectations
The learner is able to; • accurately identify stitches as used in making clothes, • clearly states the uses of stitches in making clothes, • successfully practice threading a needle before sewing, • consistently practice using a needle during sewing, • effectively apply tacking stitches on pieces of cloth, • appropriately observe safety precaution during needlework.	Learner is able to; • identify stitches as used in making clothes, • state the use of stitches in making clothes, • practice threading a needle before sewing, • practice using a needle during sewing, • apply tacking stitches on a piece of cloth, • observe safety precautions during needlework.	Learner is able to; • identify a few stitches as used in making clothes, • state some uses of stitches in making clothes, • practice minimal threading of a needle before sewing, • attempt using a needle during sewing, • apply a few tacking stitches on a piece of cloth, • observe minimal safety precaution during needlework.	The learner has challenges in the use of tacking stitches.

Strand	Sub-Strand	Specific Learning Outcomes	Suggested Learning Experience	Key Inquiry Question
4.0	4.2.2 Stitches (9 lessons) For blind	By the end of the sub strand, the learner should be able to; i) identify stitches as used in knitted articles for familiarization, j) state the uses of stitches on knitted articles for concept mastery, k) practice casting on using knitting needles to acquire skills, l) practice knitting and purling stitches to perfect their skills in knitting, m) apply knitting and purling stitches to make knitted articles to refine their skill in knitting, n) practice casting off to acquires, o) observe safety precautions during knitting to avert accidents, p) appreciate the use of knitting and purling stitches in making an article to stimulate their interest.	• Learner names and identifies stitches using realia and audio visual clips. • Learner states the uses of stitches on a knitted article. • Learners interact on one to one with a resource person in practicing casting on. • In groups learners apply knitting and purling stitches to make a knitted article. • Learners interact on one to one with resource person in practicing casting off. • Learner practice safety measures during knitting.	1. Which tools do you use in making basic stitches? 2. How do you start knitting? 3. How do you end knitting?

Core Competencies to be developed

- **Communication and Collaboration:** This is developed as the learners work together.
- **Creativity and Imagination:** This is developed through practicing various knitting stitches.
- **Learning to Learn:** This is developed as learners share knowledge in making different knitting stitches.

Pertinent and Contemporary Issues (PCIs) • **Disaster Risk Reduction:** As learners take precautions while using knitting needles. • Career Guidance: as learners acquire skills or future career guidance.	**Values** **Responsibility:** This is developed as the learner observes safety during knitting. **Unity:** This is developed as learners practice peer teaching.
Links to other subjects • **Mathematics:** As the learner counts stitches and measures during knitting. • **Art and Craft:** As the learner uses different colours of yarns in making articles during knitting.	**Suggested community service learning activities** • Visit the nearby tailoring shop to observe knitting. • Story telling on knitting.
Suggested Non-Formal activities to support learning • Story telling on knitting.	**Suggested Assessment Modes** Observation, critiques, checklist, portfolio, oral and written tests, self and peer assessment and demonstration.

Suggested resources
Resource person, knitting needles, tactile ruler, knitting yarns, tactile tape measure and scissors.

Assessment Rubric

Exceeding Expectations	Meeting Expectations	Approaching Expectations	Below Expectations
The learner is able to; • accurately identify stitches as used in knitted articles, • clearly state the uses of stitches in knitted articles, • perfectly practice casting on using knitting needles, • constantly practice knitting using knitting needles. • constantly practice knitting and purling stitches, • effectively apply knitting stitches to make an article, • practice casting off accurately, • appropriately observe safety precautions during knitting.	The learner is able to; • identify stitches as used in a knitted article, • state the uses of stitches on knitted articles, • practice casting on using knitting needles, • practice using knitting needles. • practice knitting and purling stitches, • apply knitting stitches to make an article, • observe safety precautions during knitting.	The learner is able to; • attempt to identify stitches as used in knitted articles, • state a few uses of stitches used in a knitted article, • practice casting on using knitting needles with minimal assistance, • often practice knitting using knitting needles, • attempt to practice knitting and purling stitches, • often apply knitting stitches to make an article, • practice casting off with minimal assistance, • sometimes observe safety precautions when knitting.	The learner has challenges in identifying and making of basic knitting stitches.

Strand	Sub- Strand	Specific Learning Outcomes	Suggested Learning Experience	Key Inquiry Question (S)
4.0 CLOTHING	4.3 Repair and maintenance of clothes (3 lessons)	By the end of the sub strand, the learner should be able to; f) mention factors to consider when choosing a button to fix on a garment, g) choose the right button to fix on a garment, h) fix the button on a garment for learning repair and maintenance, i) practice safety while fixing a button on a garment for avoid accidents, j) appreciate a well fixed button on a garment for repair and maintenance.	• Learner uses embossed charts to choose the right button to fix on a garment. • Learner chooses the right button to fix on a garment. • Learner interacts with a resource person on the best way to fix a button. • Learner fixes the button on a garment. • Learner practices safety measures while fixing a button on a garment.	4. What do you look for when choosing a button? 5. How do you fix a button?

Core Competencies to be developed
Self-Efficacy: This is developed as learners practice fixing a button.
Critical Thinking and Problem Solving: This is developed as learners choose the right button to fix on a garment.
Communication and Collaboration: This is developed as learners work together in pairs and in groups.

Pertinent and Contemporary Issues (PCIs) **Disaster Risk Reduction**: Learners observe as they use sewing tools. **Personal Hygiene:** The learner enhances good grooming in repair maintenance of sewing tools.	**Values:** **Responsibility**: This is developed as the learner practices to fix own buttons independently. **Unity**: This is developed as learners practice peer teaching.

Links to other subjects	Suggested community service-learning activities
Mathematics: As the learner identify number of buttons to be fixed and also number of button holes in order to determine mode of fixing. **Art and craft:** As the learner chooses proper colour in matching the button with the garment.	• Sensitize other pupils in school on how to fix buttons on garments • Learners tell stories on repair and maintenance of clothes.
Suggested Non-Formal activities to support learning • Learners tell stories on repair and maintenance of clothes.	**Suggested Assessment Modes** Checklist, project, critique, observation, oral and written tests, self and peer assessment.
Suggested resources Sewing tools (needles, tape measures, rulers) and materials(yarn, fabrics, different buttons)**,** pictures and embossed chart.	

Assessment Rubric

Exceeding Expectations	Meeting Expectations	Approaching Expectations	Below Expectations
The learner is able to; • clearly mention factors consider when choosing a button for repair to fix on a garment, • accurately choose the right button to fix on a garment, • accurately fix a button on a garment, • keenly practice safety measures while fixing a button on a garment.	The learner should be able to; • mention factors to consider when choosing a button for repair to fix on a garment, • choose the right button to fix on a garment, • fix a button on a garment, • practice safety measures while fixing a button on a garment.	The learner should be able to; • attempt to mention factors to consider when choosing a button for repair to fix on a garment, • choose a few buttons to fix on a garment, • attempt to fix a button on a garment, • practices some safety measures while fixing a button on a garment.	The learner has difficulty in carrying out activities involving repair of garments.

Strand	Sub Strand	Specific Learning Outcomes	Suggested Learning Experience	Key Inquiry Question (S)
4.0 CLOTHING	**4.4 Laundry work (11 lessons)**	By the end of the sub-strand, the learner should be able to; h) give reasons why laundry work is important in care of personal items, i) identify resources required for carrying out laundry work, j) describe the steps of laundering different personal items to enhance learning, k) practice laundering of different personal items for mastery of the skills, l) observe safety while laundering personal items to avert accidents, m) explain how to care for cleaning equipment and materials to minimize costs, n) appreciate properly laundered personal	• In groups, learners discuss reasons why laundry work is important in care of personal items. • Learner brainstorms on the resources required for carrying out laundry work. • Learners watch and listen to audio visual clips on steps on laundering different personal items (mending, sorting, soaking, washing, rinsing, drying, ironing, airing and storage). • In pairs, learners discuss steps followed when laundering different personal items. • Learners interact with a resource person, one to one, on laundering different personal items (handkerchief white and coloured, socks, stocking and inner wears) • Learners practice laundering of different personal items (handkerchief – white and coloured, socks, stockings and inner wears). • Learners watch and listen to audio visual clip and demonstration on safety when laundering personal items.	1. Why is laundry work important in taking care of personal items? 2. What are the steps of laundering different personal items? 3. How do we take care of the resources used in laundry work?

		items to enhance personal hygiene.	• Learners demonstrate responsibility in caring for cleaning equipment and materials. • Learners appreciate laundering of personal items.	

Core Competencies to be developed
Communication and collaboration: This is developed as learners work together in pairs and groups.
Critical Thinking and Problem Solving: This is developed as learners use laundry materials.

Pertinent and Contemporary Issues (PCIs) • **Personal Hygiene:** Promotes healthy living by using clean and neat personal items.	**Values** • **Responsibility:** This is developed as learners care for personal items. • **Unity:** This is developed as learners work in pairs and groups.
• **Links to other subjects** • **Science and Technology:** As the learner uses detergents in cleaning of personal items. • **English:** As the learner learns different vocabulary like detergent and laundry.	**Suggested community service-learning activities** • Learners sensitize their immediate peers to participate in washing of personal items. • Sing a song on detergents while washing.
Suggested Non-Formal activities to support learning • Sing a song on detergents.	**Suggested Mode of assessments** Observation, checklist, critique, oral and written tests, self and peer assessment and demonstration.

Suggested resources
Resource person, laundry work resources, handkerchief (white and coloured), socks, stockings, innerwear and audio-visual clips.

Assessment Rubric

Exceeding Expectations	Meeting Expectations	Approaching Expectations	Below Expectations
The learner is able to; • appropriately give reasons why laundry work is important in care of personal items, • clearly identify resources required, • carefully describe the steps of laundering different personal items, • effectively practice laundering of different personal items, • keenly observe safely while laundering personal items, • appropriately explain how to care for cleaning equipment and materials.	The learner is able to; • give reasons why laundry work is important in care of personal items, • identity resources required, • describe the steps of laundering different personal items, • practice laundering different personal items, • observe safety while laundering personal items, • explain how to care for cleaning equipment and materials to minimize costs, • care for cleaning equipment and materials.	The learner is able to; • give some reasons why laundry work is important for personal items, • identify a few resources required, • describe minimal steps of laundering personal items, • practice laundering of minimal personal items, • observe a few safety measures on laundering personal items, • cares for some cleaning materials.	The learner has challenges in giving reasons for proper laundry work and identifying resources required to carry out the activity.

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