

Early Childhood Education
Pre-Mathematics and Science Teaching
Module
Visual Impairment

DEVELOPERS: ECE/PRE-MATHS AND PRE-SCIENCE

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PREFACE

The advent of the Competence-Based Curriculum (CBC) heralds a new era of dynamic and practical learning experiences designed to equip learners with the 21st century skills.

The choice of the Competence-Based Curriculum (CBC) marks a transformative step in improving education quality and relevance. The Ministry of Education understands the challenges that come with transitioning to a new curriculum and is therefore committed to ensuring provision of quality teaching and learning materials to support effective lesson delivery.

The Adapted **Pre Mathematics and Pre Science Teaching** Module has been shaped in line with the Competence Based Education principles which seek to link education to real life experiences. The General Competences provided in the 2023 Zambia Curriculum Framework are collaboration, critical thinking, creativity and innovation, problem solving, analytical thinking, emotional intelligence, digital literacy and entrepreneurship. The Topics, Sub-topics, Specific Competences are also suggested.

Effective implementation of the CBC requires clarity of focus, undivided dedication, commitment and setting higher level competences. It is my sincere hope that this CBC Adapted Pre Mathematics and Pre Science Course for learners with Visual Impairments will greatly improve the quality of education provided to these learners as outlined and emphasized in various policy documents; ‘Education for Sustainability, 2023’, the ‘2023 Zambia Education Curriculum Framework and the ‘Guidelines in the Implementation of Special and Inclusive Education in Zambia, 2016’ as well as outlined in the 2015 National Policy on Disability.

This module reflects the Ministry’s unwavering commitment to making this journey as smooth as possible for teachers, by providing structured guidance, suggested activities, and formative assessments that align with the CBC’s objectives. However, teachers are encouraged to supplement this module with their own research and innovations in order to address any gaps that may arise during implementation.

Joel Kamoko (Mr.)
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ACKNOWLEDGEMENT

The Adapted Pre Mathematics and Pre Science teaching Module for ECE learners with Visual Impairments is a result of wide consultation involving several stakeholders within and outside the Education system.

Many individuals, institutions and organizations were consulted to gather their views on the existing Braille course for learners with Visual Impairments and to accord an opportunity to make suggestions for the Competence Based Curriculum. The Ministry of Education wishes to express heartfelt gratitude to all those who participated for their valuable contributions which culminated in the development of this Adapted Pre Mathematics and Pre Science Module for ECE learners with Visual Impairments.

Finally, I acknowledge the dedication and hard work of the staff at the Curriculum Development Centre, whose efforts were instrumental in ensuring the successful completion of the syllabus development process.

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Introduction

The **Adapted Pre Science and Pre Mathematics** Teaching Module has been meticulously designed to support teachers in the effective delivery of **Adapted Pre Mathematics and Pre Science** lessons under the reformed curriculum. The module is developed based on the approved 2024 Competence-based **Adapted Pre Mathematics and Pre Science** Syllabus. It aims to bridge the gap created by the absence of approved textbooks and to equip educators with practical tools, activities, and assessments tailored to the learners' level and needs.

The Ministry, understands the challenges that come with transitioning to a new curriculum that is Competence Based. The choice of the Competence-Based Curriculum (CBC) marks a transformative step in improving education quality and relevance. This module reflects the Ministry's unwavering commitment to making this journey as smooth as possible for teachers, by providing structured guidance, suggested activities, and formative assessments that align with the CBC's objectives. However, teachers are encouraged to supplement this module with their own research and innovations in order to address any gaps that may arise during implementation.

The suggested activities and assessments provided in this module are designed to foster practical and critical thinking skills in learners while ensuring relevance and adaptability to different school contexts. Teachers are encouraged to tailor these suggestions to their unique classroom dynamics and to explore alternative, acceptable approaches when necessary. This flexibility is key to ensuring that all learners, regardless of their environment, benefit from meaningful and impactful Curriculum.

It is envisaged that this module will serve as a valuable resource for teachers as they navigate the new Competence-Based Curriculum, enhancing their ability to inspire and equip learners with essential **Adapted Pre Mathematics and Pre Science** knowledge, skills and positive attitudes desired to create a vibrant and responsive education system.

TOPIC 1: CLASSIFICATION

Introduction.

In this topic, you will learn about the following:

Classification is the allocation of items to groups according to types. It is important in one's life as it instills a sense of recognition of characteristics of items/objects. It helps us to distinguish between two or more items/objects.

General competence(s): Competences to be developed are collaboration and critical thinking.

3. Key terms/concepts

In this topic, you will be introduced to the following terms/concepts:

1. Classification

Sub-topic 1.1: Classification

Classification is the sorting and grouping of items/objects according to their attributes/characteristics.

Specific competences: Learners to:

0.1.1.1 Classify items according to their attributes

Activity 1

Exploring the environment

Step 1: Learners to go round the school surrounding

Step 2: List what they see/ touch

Step 3: Play games with stones, sticks, lid tops in games like “iciyenga” etc

Step 4: Oral questions; mentioning stones used in games of draft,” icyenga” etc

Activity 2

Identifying of various objects according to given criteria such as quantity and size

Step 1: Given a list of items e.g. (5 litres of cooking oil, 2.5 litres of cooking oil, 1kg of salt, 2kg of mealie meal, 500g of sugar and 500g of salt.

Step 2: Show the items to the Learners according to size quantity.

Step 3: Learners to identify list of items in groups according to size and quantity.

Step 4: Learners to differentiate items according to quantity and size.

Activity 3.

Matching familiar objects according to given criteria such as size and number.

Step 1: Teacher to present various fruits to the Learners

Step 2: Learners to be shown the sizes and numbers of the fruits.

Step 3: Learners to match sizes and number of the given fruits.

Step 4: Learners to match the sizes and number of fruits given correctly

Activity 4.

Matching objects in one-to-one correspondence e.g. a chair for each child.

Step 1: Teacher to give each chair to a given child.

Step 2: Teacher explains to learners to get only one pencil from 12 pencils displayed on the table in relation to their names.

Step 3: Teacher lines up learners to get each cup according his/her name.

Step 4: Ask questions on how many books, pencils, crayons etc. if the class has only 12 learners.

Activity 5

Sorting objects according to given criteria such as size and shape.

Step 1: Display different bottle tops on the table.

Step 2: Allow all the learners to see/touch the objects on the display.

Step 3: Allow the learners to sort out the bottle tops according to size and shape.

Learners to group objects according to their sizes and shapes.

Activity 6:

Sorting objects using puzzles and games (shoe size, height).

Step 1: Teacher displays the assorted bottle tops, lid tops on the table.

Step 2: Teacher explain how a given bottle top/lid fits a given bottle.

Step 3: Divide the learners into groups and allow them to sort the bottle tops according to the given bottles.

Step 4: Individual learners to sort out the given bottle tops to the given bottles.

Activity 7:

Grouping objects according to the given criteria such as functions and similarities

Step 1: Teacher displays the kitchen utensils on the table.

Step 2: Learners allowed to come forward to see/touch the utensils.

Step 3: The teacher explains the functions of the given utensils to the learners.

Step 4: Learners to group the given objects according to their functions and similarities.

Activity 8:

Ordering objects according to given criteria such as length, height, size and shape.

Step 1: Arrange assorted items at the table like sticks, cloth, rulers, pencils, balls, shoes etc.

Step 2: Explain to the learners the objects displayed on the table that they are of different shapes, height, length and size.

Step 3: Learners to arrange the assorted objects according to their length, shapes, height and size.

Step 4: Individual learners to list the assorted objects according to their shapes, length, size and height.

Activity 9:

Ordering daily routine activities

Step 1: Teacher to find out from pupils which daily routine activities they know.

Step 2: Teacher and learners discuss the daily routine activities (Brushing of teeth, combing of hair, eating breakfast, going to school, washing /bathing.

Step 3: Learners to identify the daily routine activities correctly.

Step 4: Learners to demonstrate how these daily routine activities are done.

Activity 10:

Telling number stories

Step 1: Let the learners mention the days of the week.

Step 2: Teacher jumbles the days of week and asks them to identify the first and last day of the week.

Step 3: Learners are divided into groups and then sing the song “number one, number 2 where are you?” While others mention the days of the week.

Step 4: Learners pair up and revise the numbers and the days of the week.

Suggested Teaching/Learning Materials: Oranges, bananas, plates, books, pencils, stones, mealie meal, cooking oil, water, chairs, bottle, crayons, tops, bottles, sticks, sugar, salt, avocados,

Calendar, cloth, comb, bathing soap, tooth paste, bathing towel

Expected Standard: Items identified according to their attributes correctly.

Assessment: Classification of objects according to their attributes through observation, question and answer, group work, demonstration, puzzles and games.

Summary: In this topic, you have learnt the concept of “Classification”. Classification of objects according to their attributes such as size, shape, quantity, number, functions and similarities, length, height and ordering and daily routine.

TOPIC 2: HUMAN BODY

Introduction: In this topic, you will learn about the following;

Human body is the physical substance of the human organism, composed of living cells and extra cellular materials and organized into tissues and organs.

General Competence(s): Competences to be developed are collaboration and critical thinking.

Key terms/concepts.

In this topic, you will be introduced to the following terms/terms

1. External parts of the body
2. Personal hygiene

Sub topic 2.1

External parts of the body

These are parts of the body which are visibly seen. They include hair, eyes, nose, teeth, skin, hands and legs.

Specific Competence:

0.1.2.1.1 Recognize and name the external parts of the human body

Learning Activities:

Activity 1

Identifying the external parts of the human body (Head, eyes, nose, mouth, arms, hands and feet) through games and songs.

Step 1: Teacher presents a toy in the class representing a human body.

Step 2: The learners are told to touch all the parts of that toy while teacher names those parts.

Step 3: Learners to mention the parts of the body individually.

Step 4: Learners to sing a song naming the parts of the body.

Activity 2

Relating external parts of the human body to their functions through songs and activities such as eyes for seeing, hands for touching/holding, legs for walking.

Step 1: Teacher to allow the learners to stand up and mention their parts of the body individually.

Step 2: Teacher asks the learners what each part of the body does.

Step 3: Teacher explains the functions of each part of the body

Step 4: Learners sing a song mentioning the function of each part of the body

Suggested teaching/learning aids:

Models and toys.

Expected Standard: Names of external parts of the human body recognized correctly.

Assessment: The learners to be assessed on identification of external parts of human body and to relate these parts to their functions.

Recap: In this sub topic, you have learnt the identification of the human body parts in relation to their functions through songs and games.

Sub topic: 2.2 Personal Hygiene

Introduction: In this topic, you will learn about the following:

Personal hygiene is the practice of keeping your body clean and healthy by washing and grooming yourself. This includes washing your hands and practicing oral hygiene.

General competence: Competence to be developed are collaboration and critical thinking.

Key terms/Concepts/concepts:

1. Personal hygiene

0.1. 2.2.1 Specific competence: Learners to practice basic personal hygiene.

Learning Activities

Activity 1

Demonstrating proper hand washing using songs or rhymes.

Step 1: Teacher demonstrates to the learners on how to wash the hands.

Step 2: Learners to follow what the teacher demonstrated.

Step 3: Teacher put learners into pairs to practice.

Activity 2

Demonstrating how to brush teeth using appropriate materials.

Step 1: Teacher displays materials used for brushing on the table.

Step 2: Teacher demonstrates on how to use these materials step by step.

Step 3: Learners do the actual brushing of the teeth.

Activity 3

Practicing using toilet facilities (Flushing and covering the toilet after use, opening and covering the drop hole.)

Step 1: Teacher explains to the learners the toilet facilities.

Step 2: Teacher demonstrates how to use it (Flushing and covering)

Step 3: Learners in pairs demonstrates/practice how to flush and cover the toilet hole.

Suggested Teaching/Learning aids:

Water, toothpaste, soap, toothbrush, towel, lotion, basin/bucket.

Expected standard: Personal hygiene practiced correctly.

Assessment: Learners to be assessed on how to brush their teeth and practice using toilet facilities.

Summary: In this topic, you have learnt on how to practice personal hygiene correctly.

TOPIC 3: NUTRITION AND HEALTH.

Introduction: In this topic, you will learn about the following;

1. Food

2. Food hygiene

3. Healthy and unhealthy foods

Nutrition and health is a science of human nutrition or science of food, the nutrients and other substances therein, their action, interaction and balance in relation to health and diseases, and the process by which the human organism ingests, absorbs and transports.

General competence(s): Competences to be developed are collaboration, critical thinking and creativity and innovation.

Key terms/Concepts

In this topic, you will be introduced to the following terms/concepts.

1. Nutrition and health

Sub topic: .3.1. Food

Food is any substance consumed by an organism for nutritional support. Food is usually of plant, animal, or fungal origin and contains essential nutrients such as carbohydrates, fats, proteins, vitamins or minerals.

Specific competence(s):

0.1.3.1.1 Identify different types of food.

Learning Activities

Activity 1

Identifying and naming various types of food (fruits, vegetables, grains, and proteins, dairy).

Step 1: Teacher defines fruits, vegetables, grains, proteins and dairy.

Step 2: Learners to identify the various types of food.

Step 3: Teacher divides the class into groups, asks the pupils to identify and name various types of food.

Suggested teaching/Learning aids:

Fruits, vegetables, milk, meat, grains (maize).

Expected standard: Different types of food identified correctly.

Assessment: Learners to be assessed on the identification and naming of various types of food.

Recap: In this topic, you have learnt the concept of food. Food is any substance that is consumed by an organism for nutritional support.

Sub topic: 3.2. Food Hygiene

Introduction: In this topic, you will learn about the following;

Food hygiene is the practice of handling, preparing and storing food to prevent contamination and food borne illness.

Competence(s): Competences to be developed are collaboration and creativity thinking.

Key terms/Concepts:

In this topic, you will be introduced to the following concepts;

Food hygiene

Specific competence:

0.1.3.2.1 Practice food hygiene

Learning activities

Activity 1

Demonstrate food hygienic practices of handling foods, such as washing hands, fruits, vegetables and covering food.

Step 1: Teacher explains the importance of food hygiene.

Step 2: Teacher displays the foodstuffs available and allow learners to come forward to the display table.

Step 3: Demonstrate on how foodstuffs should be handled.

Step 4: Learners practice on how to keep food hygienically.

Activity 2

Washing of utensils after eating.

Step 1: Teacher demonstrates to learners on how to remove the utensils from the table.

Step 2: Teacher demonstrates on how to clean/wash of the utensils.

Step 3: Learners practice on how to clean/wash the utensils.

Step 4: Wiping and cleaning the surfaces.

Activity 3

Practising warming leftover food before eating.

Step 1: Teacher explains to the learners about the leftover food.

Step 2: Learners to be shown the leftover food.

Step 3: Teacher demonstrates how to warm the food.

Step 4: Teacher asks learners on how to warm leftover food orally.

Suggested teaching/Learning aids.

Pots, firewood, Actual food (rice, nshima), plates, spoons, forks, knives.

Expected Standard: Food hygiene practiced correctly.

Assessment: Learners to be assessed on how to keep food hygienically and find ways of not making food (leftover food) to go bad.

Recap: In this topic you have learnt on how to keep food properly and ways of keeping the food not to go bad.

Subtopic 3.3 : Healthy And Unhealthy Foods

Introduction: In this topic, you will learn about Healthy and unhealthy foods.

Healthy foods are rich in nutrients, while unhealthy foods are high in calories and low in nutrients.

Key terms/concepts:

In this topic you will be introduced to the following terms/concepts;

Healthy and unhealthy foods**Specific Competence:**

0.1.3.3.1 Identify healthy and unhealthy foods.

Learning Activities**Activity 1**

Identifying healthy and unhealthy food choices.

Step 1: Teacher asks learners about healthy and unhealthy foods.

Step 2: Teacher discusses with learners on healthy and unhealthy foods.

Step 3: Learners to mention unhealthy and healthy foods orally in groups.

Activity 2

Differentiating between healthy and unhealthy food choices. (Vegetables being healthier choices compared to sugary snacks).

Step 1: Teacher to explain differences between healthy and unhealthy foods.

Step 2: Teacher and Learners identifies healthy and unhealthy foods.

Step 3: Learners to identify the unhealthy and healthy foods orally.

Expected standard: Healthy and unhealthy foods identified accordingly.

Assessment: Learners to be assessed on the healthy and unhealthy foods. This has to show the differences between the two types of foodstuffs.

Summary: In this topic, you have learnt on what food is, food hygiene and the way we identify and classify unhealthy and unhealthy foods.

TOPIC 4. NUMBER AND NOTATION

Introduction: In this topic, you will learn about the following;

Numbers and Notation

Number and notation is a way to represent numbers using symbols or digits.

General competence(s): Competences to be developed are critical thinking and problem solving.

Key terms/concepts:

In this topic, you will be introduced to the following terms/concepts.

Number and Notation

Subtopic: 0.1.4.1. Numbers

Numbers are mathematical objects to count, measure, and label. They can be written as numerals like “1” or as words, like “one”.

Specific competence:

0.1.4.1.1 Recognise numbers

Learning Activities

Activity 1

Counting orally numbers 1-10, counting concrete or real objects 1-5.

Step 1: Teacher explains to the learners that they will count numbers 1-10 and real objects 1-5.

Step 2: Teacher demonstrates to the learners on how to count from 1-10 orally, using a song.

Step 3: Teacher demonstrates to learners on counting numbers 1-5 using stones.

Step 4: Learners count in pairs using stones, 1-5 and orally using songs.

Activity 2

Identifying numbers 1-5 using objects.

Step 1: Teacher revises activity one by giving a child a bundle of sticks to get five from these.

Step 2: Teacher to demonstrate writing numbers using concrete objects from 1-5.

Step 3: Teacher to ask pupils to practice writing numbers 1-5.

Step 4: Learners to count numbers individually 1-5.

Activity 3

Identify written numbers 1-5 using objects.

Step 1: Teacher to ask individual learners to identify written numbers 1-5 using objects.

Step 2: Teacher to ask learners to count written numbers 1-5 using objects.

Step 3: Teacher to heap different objects in 1,2,3,4,5 and ask learners to name numbers according to the heap of numbers.

Step 4: Teacher to ask pupils to identify written numbers and count numbers 1-5 using objects.

Activity 4

Naming numbers 1-5 using objects

Step 1: Teacher to give objects to the learners according to the number of object each learner has (1-5).

Step 2: Teacher to call out numbers 1-5, and ask learners having the number mentioned to stand and name the number.

Step 3: Teacher asks pupils to read the written numbers (1-5) using objects.

Step 4: Teacher to ask learners to name numbers 1-5 using objects.

Activity 5

Recognizing the value of numbers 1-5 using real objects.

Step 1: Teacher to explain to the learners how the game is played.

Step 2: Teacher to demonstrate to the learners how the game is played, eg. Five holes are made and the teacher places a stone in the third hole, then the learner hops to the third hole where the stone is etc.

Step 3: Learners divided into pairs to practice the game.

Step 4: Learners to be divided into groups and do a competition on hopscotch.

Activity 6

Matching familiar objects according to their value (1-5).

Step 1: Teacher explains to the learners how matching familiar objects according to their value (1-5).

Step 2: Teacher demonstrates by matching the numbers 1 to 1 stone, 2 to 2 books, 3, 3 pencils etc.

Step 3: Learners to match familiar objects to 1-5 to bottles, pens, books etc.

Step 4: Learners to do individual work on the same work.

Activity 7

Embossed numbers 1-5

Step 1: Teacher explains to the learners on how to write (emboss).

Step 2: Teacher discusses with learners on how to write numeral sign as dot 3 and 456.

Step 3: Learners to emboss numeral sign and immediately dot 1, dot 1 2, dots 1 3 etc.

Step 4: Learners to write (emboss, 1-5) correctly.

Suggested Teaching and Learning Aids

Stones, bottles tops, writing equipment (Braille set) pencils, sticks, books, pens, brailled numbers.

Expected standard: Numbers 1-10 recognized correctly.

Assessment: Learners to be assessed on how to recognize numbers from 1-10 and emboss numbers from 1-5 correctly.

Summary: In this topic, the learners learnt on how to recognize numbers 1-10 orally, using real objects, play games using real objects in order to recognize numbers and also emboss the numbers 1-5 correctly.

TOPIC 5: ADDITION AND SUBTRACTION

Introduction: In this topic, you will learn about the following; Addition and subtraction is mathematical operation that involve combining or removing number. They are represented by plus sign (+) and (-).

General competences: Competences to be developed are critical thinking and problem solving.

Key terms/concepts

In the following topic learners will be introduced to the following;

Addition and Subtraction

Sub-topic 5.1. Addition

Addition is the process of calculating the total of two or more numbers or amounts.

Specific competence:

0.1.5.1.1. Use mathematical operations.

Learning activities

Activity 1

Adding concrete objects up to the sum of 5.

Step 1: Teacher explains to the learners the process of adding numbers from 1-5 using concrete objects.

Step 2: Teacher demonstrates to the learners using concrete object in showing 1 plus 1, which makes two, 1 plus 2, makes 3 etc.

Step 3: Learners to be divided into groups to add objects to the sum of five.

Step 4: Individual learners to use concrete objects in adding to the sum of five.

Suggested teaching /learning aids

Stones, pencil, books, sticks, stylus, hand frame and paper.

Expected standard: Mathematical operations used correctly.

Assessment: Learners to be assessed on how to add concrete things up to 5. They should also use the mathematical operation of addition correctly.

Recap: In this topic, you have learnt on how to add using concrete things to the sum of five.

Subtopic 5.2 : Subtraction

Introduction: In this topic, you will learn about the following;

Subtraction is the operation or process of finding the difference between two numbers or quantity.

Key terms/concepts

In this topic, you will be introduced to the following terms/concepts.

Subtraction

Subtopic: 0.1.5.2. Subtraction

Specific competence: 0.1.5.1.1 use mathematical operations.

Learning Activities

Activity 1

Subtracting concrete objects up to the difference of 4.

Step 1: The teacher explains the process of subtraction using concrete objects.

Step 2: Teacher demonstrates the process using concrete objects eg. 3-2, 4-1, and 3-1 etc.

Step 3: The learners to use concrete objects in the subtraction up to the difference of 4.

Step 4: Individual learners to subtract up to the difference of 4 using concrete objects.

Suggested teaching/ learning aids

Stones, sticks, books, pens, pencils, writing equipment.

Expected standard: Mathematical operation used correctly.

Assessment: The learners to be assessed on subtraction up to the difference of 4 using concrete materials.

Summary: In this topic, you have learnt on how to add and subtract concrete objects to the sum of 5 and to the difference of 4.

TOPIC 6: SHAPES

Introduction: In this topic, you will learn about the following;

Shapes in mathematics define the outline or the boundary of an object, the shapes can be classified into different types based on their properties.

General competences: Competences to be developed are analytical thinking, collaboration, critical thinking and problem solving.

Key terms/concepts: In this topic, you will be introduced to the following terms/concepts.

Shapes

Subtopic 6.1: Shapes

Introduction

The topic introduces shapes. Let learners discuss their understanding of shapes

Specific competence:

0.1.6.1.1. Create shapes

Learning Activities

Activity 1

Making lines using real objects

Step 1: Teacher introduces the lesson on making lines using real objects.

Step 2: Teacher demonstrates using the material available to make lines.

Step 3: Learners practice making lines using the given materials.

Step 4: Individual learners to make lines using the real objects given correctly.

Activity 2

Construct shapes using puzzle and other items.

Step 1: Teacher introduces the lesson by giving out cut outs.

Step 2: Teacher demonstrates with the given material on how to make shapes.

Step 3: Learners divided into groups to make different shapes.

Step 4: Individual learners to construct shapes using puzzles and other items.

Activity 3:

Creating 2 dimensional shape diagrams.

Step 1: Teacher explains the meaning of a 2 dimensional shape (a shape with a length and width that can be drawn on the flat surface).

Step 2: Teacher gives examples; shapes, like triangles, circle, rectangle etc.

Step 3: Teacher and learners create some 2 dimensional shapes on the flat surface like a paper etc.

Step 4: individual learners to create at least 2 shapes of 2 dimensional correctly.

Activity 4:

Making 3 dimensional shapes

Step 1: Teacher explains the meaning to the learners that 3 D means solid objects that have length, width and height.

Step 2: Teacher and learners discuss names of such shapes like cones, sphere, cylinder etc.

Step 3: Teacher demonstrates on how to make such solid shapes like cuboids and cone.

Step 4: Learners to make at least 2 3 dimensional shape correctly.

Activity 5

Comparing shapes according to size.

Step 1: Teacher revises activity 3 and 4 with the learners.

Step 2: Teacher and learners discuss 2 dimensional and 3 dimensional shapes.

Step 3: Learners to compare the shapes discussed of 2 dimensional and 3 dimensional.

Step 4: Oral discussions on the comparison of the shapes.

Activity 6:

Tracing shapes

Step 1: Teacher explains on how to trace shapes.

Step 2: Teacher demonstrates on how to trace the shapes, mould and do some cut outs.

Step 3: Learners are divided into groups and told to trace using cut outs.

Step 4: Individual learners to trace the shapes using the cut outs.

Suggested teaching / learning aids

Carton box, tracing wheel, clay soil, paper, solid shapes (cones, cylinder) triangles, rectangles, circle.

Expected standard: Shapes created successfully.

Assessment: The learners to be assessed on creating shapes of 2 dimensional, 3 dimensional and tracing the shapes correctly.

Summary: In this topic you have learnt on how to create shapes of 2 dimensional, 3 dimensional, making lines using real objects and tracing shapes.

TOPIC 7: MEASUREMENT

Introduction: In this topic, you will learn about the following;

Measurement

Measurement is the process of quantifying the size of an object or event. It is used to compare objects or events to a standard reference.

General competences: competences to be developed are creativity and innovations, critical thinking and problem solving.

Key terms/concepts: In this topic, you will be introduced to the following terms/concepts
Measurement

- To **Measure** is to ascertain the size, amount or degree of (something) by using an instrument or device marked in standard units.

Sub topic: .7.1. Measure

Let learners explain their understanding of *measure*

Specific competence:

0.1.7.1.1. Tell time by activities of the day.

Learning Activities

Activity 1

Telling time by activities of the day.

Step 1: Teacher explains to the learners the activities of the day (daily routine).

Step 2: Teacher discusses with the learners on what they do when they wake up.

Step 3: Teacher and learners lists/ mentions the daily routine for their days.

Step 4: Individual learners tell time of the activities of their day.

Activity 2

Telling the day of the week

Step 1: Teacher explains to the learners that the days of the week are not the same (e.g. Monday).

Step 2: Teacher and the learners to sing the song on the days of the week (Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday).

Step 3: Learners in groups to discuss on what days they go to school and not (which days are more important than others).

Step 4: Learners and teacher revises on the days of the week.

Activity 3

Measuring lengths and widths of different objects using non-standard units.

Step 1: Teacher to explain to the learners that non-standard unit of measurement is units of measurement that are not typically used. For example, pencil, toothpick etc.

Step 2: Teacher to demonstrate measuring length and width of different objects using non-standard units.

Step 3: Learners divided into pairs and ask them to practice measuring length and width of different objects using non-standard units.

Step 4: Learners and teacher revise on measuring lengths and widths of different objects using non-standard units.

Activity 4

Compare lengths and widths of different objects.

Step 1: Teacher to explain to learners on comparing lengths and widths of different objects.

Step 2: Learners divided into groups and ask them to compare lengths and widths of different objects.

Step 3: Individual learners to compare lengths and widths of different objects.

Step 4: Learners and teacher to revise on comparing lengths and widths of different objects.

Suggested teaching /learning aids

Pencils, arm span, foot length, stack of paper, finger width.

Expected standard: Tell time of the day correctly, lengths and widths of different objects compared correctly.

Assessment: Learners to be assessed on telling time by using activities of the day, telling the days of the week, measuring lengths and widths of different objects using non-standard units and comparing lengths and widths of different objects.

Summary: In this topic you have learnt on telling time by using activities of the day, telling days of the week, measuring lengths and widths of different objects using non-standard units and comparing lengths and widths of different objects.