THE REPUBLIC OF UGANDA

MINISTRY OF EDUCATION AND SPORTS

PRIMARY FOUR

MATHEMATICS

SYLLABUS

National Curriculum Development Centre

P. O. Box 7002

Kampala – Uganda.

2009

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MATHEMATICS

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NATIONAL CURRICULUM DEVELOPMENT CENTRE (NCDC) UGANDA 2009

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The National Curriculum Development Centre (NCDC) takes responsibility for any shortcomings that might be identified in the publication and welcomes suggestions for effectively addressing the inadequacies. Such comments and suggestions may be communicated to NCDC through: P.O. Box 7002, Kampala or E-mail admin@ncdc.go.ug or www.ncdc.go.ug .

Connie Kateeba

Director

National Curriculum Development Centre.

FOREWORD

The Curriculum for Primary Four

The Curriculum for lower primary (P1-3) which the learner in primary four went through was organized around different themes (Thematic) that were familiar to the learner. The main emphasis of that curriculum was numeracy, literacy and life skills. The medium of instruction for most children was the local language. English was taught as a subject.

In this curriculum for primary four, children are required to change from the theme-based to subject-based learning. They are also required to begin learning in English. P4 learners will have textbooks. The teacher will encourage learners to do all activities and make responses in English. These phenomena make primary four a transitional class.

The Primary Four Curriculum revisits contents concepts and skills that have already been learnt in local languages as well as introducing some new content and concepts.

Learners and teachers will start the year using English as medium of instruction and occasionally local language when necessary. By the end of primary four the local language will be used only for explaining the most difficult concepts. Written materials including textbooks will be in English. Local languages will continue to be taught as subjects to reinforce children's literacy.

The subjects to be taught in this Primary Four Curriculum include: English, Mathematics, Social Studies, Religious Education (Christian Religious Education – CRE and Islamic Religious Education – IRE), Integrated Science, Creative Arts & Physical Education (CAPE) and Local Language. Each subject emphasizes the development of contents/(subject) competences and relevant language competences.

I, therefore, recommend this Primary Four Curriculum for its implementation in the on-going reforms in Uganda.

Hon. Namirembe Bitamazire (MP)
MINISTER OF EDUCATION AND SPORTS

INTRODUCTION

1. BACKGROUND

The new Primary Education Curriculum for Uganda has put emphasis on integrated production skills and on an integrated approach in all disciplines. Therefore, the Mathematics curriculum has been designed in such a way that will provide the learners with the means of developing logical thought and numerical skills which will be a powerful tool in their further study and later work in exploring the environment.

In this curriculum, the teacher has the task of trying to make Mathematics a reality in life. In this, he/she must succeed. Methods and approaches to learning experiences should be mostly practical and based on the experience of the learners. Hence, teaching methods to be emphasized are those that allow the learners to explore, try different procedures and solve problems practically. In this way, Mathematics should be concretized as much as possible so as to assist the learner to visualize it properly.

The syllabus is arranged in ten major themes and in each theme there are various topics. Themes include: Sets, Numeracy, Geometry, Interpretation of Graphs and Data, Measurement and Algebra.

Mathematics must be integrated with other subjects. In order to do so, the teacher will need to seek opportunities for drawing mathematical experiences out of a wide range of pupils' activities. Very many curricular areas and activities give rise to the need to use mathematical concepts, principles or ideas. Measurement and symmetry arise frequently in Art and Crafts and many patterns have some geometrical basis. Environmental Education and Social Studies use measurements of many kinds and the study of maps introduces the concepts of direction, scale and ratio. A great deal of measurement can arise in the course of cooking, including cost calculations, in the study of Home Economics.

Mathematics syllabus has been organized in Themes and within these themes there are topics. Time allocated to each Theme/Topic is indicated.

RATIONALE

The vital interplay between Mathematics and Science has been emphasized. The list of opportunities and examples of the relevance of Mathematics in the teaching and understanding of other subjects is endless. It follows, therefore, that the overall aim of teaching this subject must be to develop in the learners a positive attitude towards Mathematics and an awareness of its great power to communicate and to provide explanations in matters of daily phenomena. This will result in Mathematics being used in many activities of daily life. In this way, the subject will be demystified and user-friendly.

In implementing this syllabus, attention must be given to time allocation, i.e. double periods should be avoided except during practical lessons. The teacher should constantly facilitate and evaluate the teaching/learning process in his or her

class. Most of the evaluation will be through continuous assessment of the learners and self. Some techniques for doing this are: oral drills, flash cards, speed tests, power tests, written exercise, puzzles, riddles, contests, games self-appraisal, inventories, besides others. This will enable the teacher to check whether or not the objectives of teaching Mathematics have been realized.

The National Aims of Education

Both Thematic and Upper Primary Curriculum are designed to address the National Aims of Education as specified in the Government White Paper on the Education Policy Review Commission Report (1992). The aims are:

(a) To promote understanding and appreciation of the value of national unity, patriotism and cultural heritage, with due consideration to internal relations and beneficial interdependence;
(b) To inculcate moral, ethical and spiritual values in the individual and to develop self discipline, integrity, tolerance and human fellowship.
(c) To inculcate into Ugandans a sense of service, duty and leadership for participation in civic, social and national affairs through group activities in educational institutions and the community.
(d) To promote scientific, technical and cultural knowledge, skills and attitudes needed to enhance individual and national development.
(e) To eradicate illiteracy and equip the individual with basic skills and knowledge to exploit the environment for self-development as well as national development; for better health, nutrition and family life, and the capacity for continued learning; and
(f) To equip the learners with the ability to contribute to the building of an integrated, self-sustaining and independent national economy.

Aims and Objectives of Primary Education in Uganda

At Primary education level the national aims can be translated to include the following aims and objectives:

1. To enable individuals to acquire functional literacy, numeracy and communication skills in Ugandan languages and English.
2. To develop and maintain sound mental and physical health;
3. To instill the value of living and working cooperatively with other people and caring for others in the community.
4. To develop cultural, moral and spiritual values of life;

5. To inculcate an understanding of and appreciation, for, the protection and utilization of the natural environment using scientific and technological knowledge.
6. To develop a sense of patriotism and unity, an understanding of one's rights and responsibilities and an appreciation of the need to participate actively in civic matters.
7. To develop pre-requisite for continuing education and development.
8. To develop adequate practical skills for making a living.
9. To develop appreciation for the dignity of work and for making a living by one's honest effort.
10. To develop the ability to use the problem-solving approach in various life situations; and
11. To develop discipline and good manners.

BROAD AIMS OF EDUCATION

Mathematics provides a foundation to a dynamic society. This is a reflection of some of the National Goals and Broad Aims of Education in Uganda, which in particular are:

1. promoting scientific, technical and cultural knowledge, skills and positive attitudes needed to promote development, self-sufficiency and wealth.
2. equipping the individual with basic and production skills as well as knowledge towards understanding the laws of nature, taming the environment and taking the right decisions.

LEARNING OUTCOMES

Effective learning promotes the ability for the learner to:

1. promote problem solving in life situations;
2. relate it closely to integrated production skills and other subjects, since it is an essential knowledge base; and
3. develop and enrich children's aesthetic and linguistic experiences.

GENERAL METHODOLOGY

Mathematic should be taught practically using examples drawn from the learner's real life situation. The methods to be used are those which encourage the learner's active participation. Learners should be allowed to do activities on their

own with little assistance from the teacher. The role of the teacher is to guide the learners when they (pupils) are doing the activities.

Primary Four is a transition class, therefore learners can use their local language when explaining a concept, but the teacher should encourage the same learner to do the same explanation in English. Again the teacher is required to assist the learner to acquire proper English language.

ASSESSMENT

Mathematics appears on the timetable everyday. This gives the teacher a chance to assess the learner's everyday as she/he teaches. Continuous assessment is very much encouraged rather than having summative evaluation of the learners at the end of the term. Assessing learners daily does not mean assessing each learner in every lesson, but you can assess a group of learners. What is needed in this method of assessment is to make sure that each learner is assessed before the end of the topic. The teacher is encouraged to keep record of assessment for each learner. This will help the teacher to organize remedial teaching for her/his time takers.

Assessment can be done through assignments, projects, observation, discussion, pen and paper work and other methods.

P4 MATHEMATICS SYLLABUS

Term 1

Theme 1 : Sets

Topic 1 : Set Concepts (Proposed 8 periods)

(1) Identifying sets
(2) Naming sets
(3) Forming sets
(4) The number of members in a set
(5) Equivalent sets
(6) Empty sets
(7) Identifying common members in given sets.

Theme 2: Numeracy

Topic 2: Whole numbers (Proposed 20 periods)

(1) Read whole numbers up to 99,999
(2) Count whole numbers up to 99,999
(3) Place value of 5 digit numbers
(4) Value of digits of 5 digits numbers
(5) Expand 5 digit numbers
(6) Writing in short form
(7) Writing numbers in words
(8) Writing numbers in figures
(9) Round off whole numbers to the nearest 10, 100 and 1,000
(10) Read and write Roman numbers up to 20 (xx).

Topic 3: Operations on Whole numbers (Proposed 20 periods)

(1) Adding whole numbers up to 5 digits where the sum does not exceed 99,999 without regrouping.
(2) Adding whole numbers up to 5 digits where the sum does not exceed 99,999 with regrouping.
(3) Form and solve simple word problems involving addition.
(4) Subtract whole numbers up to 5 digits where the terms do not exceed 99,999 without regrouping.
(5) Subtract whole numbers up to 5 digits where the terms do not exceed 99,999 with regrouping.
(6) Form and solve simple word problems involving subtraction.
(7) Multiply whole numbers up to 3 digits by 0, 10 and 100.
(8) Multiply whole numbers up to 3 digits by whole numbers 1 – 9.
(9) Form and solve simple word problems using multiplication.
(10) Form and solve simple word problems using division.
(11) Divide 4-digit numbers by whole number from 1-10 and 100 without remainders.

Topic 4: Patterns and Sequences (Proposed 12 periods)

(1) Recognize and name common shapes
(2) Identify even and odd numbers
(3) Recognize patterns and sequences from given examples
(4) Form patterns and sequences

Term II

Theme 2: Numeracy

Topic 5: Fractions (Proposed 24 periods)

(1) Identify simple equivalent fractions less than 1.
(2) Identify and name proper, improper fractions and mixed numbers
(3) Rename improper fractions as mixed numbers and vice versa
(4) Equivalent fractions
(5) Order and compare fractions with the same denominator using a number line and diagrams
(6) Find simple fractions of a group
(7) Add fractions with the same denominator
(8) Subtract fractions with the same denominator
(9) Simple word problems involving fractions

Theme 3: Geometry

Topic 6: 2 - Dimensional Geometry (Proposed 18 periods)

(1) Identify 2-dimensional figures
(2) Name 2-dimensional figures
(3) Use rulers, set squares or compasses to construct equilateral triangles, rectangles, squares, triangles and lines
(4) Recognize right angles in real life situations
(5) Build polygon figures using straws, sticks, reed, wire.

Topic 7: 3-Dimensional Geometry (Proposed 8 periods)

(1) Identify the following solids and figures; cube, cuboids, sphere, cylinder, pyramid and cone
(2) Identify the faces, edges and vertices of the solids.
(3) Build models of solids

Theme 4: Interpretation of Graphs and Data

Topic 8: Data handling (Proposed 12 periods)

(1) Represent and interpret pictographs
(2) Represent and interpret bar graphs.
(3) Represent and interpret line graphs
(4) Use tally marks and common counting symbols to collect and group data

Term III

Theme 5: Measurements

Topic 9: Money (Proposed 16 periods)

(1) Identify the coins and notes of Uganda currency
(2) Add money
(3) Subtract money
(4) Conversion of money
(5) Buying and selling with Uganda currency
(6) Calculate simple profit and loss.

Topic 10: Time (Proposed 16 periods)

(1) Revise names of days and months Calendar in English
(2) Tell time in hours and minutes
(3) Convert measures of time e.g. months to days, days to weeks, hours to minutes and vice versa
(4) Find duration.

Topic 11: Length, Mass, Capacity (Proposed 20 periods)

(1) Identify standard instruments used for measuring length, mass and capacity
(2) Use standard units to measure length, mass and capacity
(3) Distance
(4) Measure perimeter of rectangles, squares and triangles
(5) Calculate the areas of squares and rectangles
(6) Solve simple problems using standard units of measure.

Theme 6: Algebra

Topic 12: Equations (Proposed 8 periods)

Simple equations without letters

Scope and Sequence

Theme 1 : Sets

Topic : Set Concepts (8 periods)

This topic continues the work on sets which was covered in P1-3. The examples should be of everyday real life situations. There must be emphasis on those English words which have a special meaning in Mathematics like 'member', 'empty', 'equivalent', etc. Learners should begin a dictionary of such words. Pictures should be used sometimes to explain the meaning of the words.

Learning outcome(s)

The learner demonstrates the knowledge of sets in solving problems in everyday life situations.

Life skills: Logical thinking, problem solving, effective communication.

Subject Competences	Language Competences	Content	Suggested Activities
• Names, identifies, forms equivalent sets and empty sets using examples at home • Counts number of members in sets • Identifies and names common members that belong to given sets.	• Writes and uses the words set, equivalent, empty and member of a set • Describes equivalent sets. • Gives orally examples of an empty set.	• Equivalent, empty set. • Members of sets. • Number of members in given sets. • Common members in given sets.	• Learner draws equivalent sets of various named objects e.g. fruits and animals. • Names examples of empty sets. • Identifies and writes common members of sets. • Counts number of members in given sets.

Assessment competences:

1. Draws equivalent sets of various named objects.
2. Describes sets in local language and English
3. Counts number of members in a set
4. Identifies common members in two given sets.
5. Writes members of a set from everyday life.

Theme : Numeracy

Topic : Whole numbers up to 100,000 (20 periods)

This topic is also a continuation of the work covered in P1-3. Now learners work with numbers up to 99,999. In order for it to be more interesting, examples from every day life competitions and games should be used. Words like 'place value', 'thousands', 'hundreds', 'tens' and 'ones' should be included in the learners' own dictionaries with examples to show their meaning. Examples using Ugandan currency can be given to show how large numbers are used in every day life.

Learning outcome(s)

The learner appreciates the need of counting in everyday life and works with whole number up to 99,999.

Life skills: Critical thinking, problem solving

Subject Competences	Language Competences	Content	Suggested Activities
• Reads, counts, writes and orders whole numbers up to 99,999.	• Counts all the number names up to 100. • Recognizes and names any number up to 99,999. • Counts backward for example from 466 to 450.	• Whole numbers to 99,999.	• Draws a numberline to show numbers in 100s from 0 – 2000.
• Identifies the place value and value of each digit in a 5 digit number.	• Counts in tens from 10 – 200 • Names the place values from ones to ten thousands.	• Place value • Value.	• Use an abacus or table to show place value and values of various numbers.
• Expands five digit numbers	• Expands numbers according to values of digits.	• Expanding numbers up to five digits.	• Uses values of digits in given numbers to expand them.

Subject Competences	Language Competences	Content	Suggested Activities
• Rounds off whole numbers to the nearest 10, 100, 1,000 using number line.	• Write numbers to the nearest tens, hundreds, and thousands	• Rounding off whole numbers	• Uses a number line to round off numbers to the nearest 10, 100 and 1000.
• Reads and writes Roman numbers I-XX	• Reads and writes Roman numbers	• Roman numerals	• Reads and writes Roman numbers. • Converts Hindu Arabic to Roman and vice versa.

Assessment competences:

1. Counts in hundreds to 99,999
2. Uses numberline to show rounding off
3. Reads Roman numerals
4. Matches Roman to Hindu numerals

TOPIC: OPERATIONS ON WHOLE NUMBERS

The basic number work on the four operations should be revised at the beginning of this topic using mental work, 'number spiders', games and competitions. There are many words used which have a special mathematical meaning in English and it is important that learners can read, write and speak them correctly. Examples can be written in the learner's dictionary.

The examples used should be concerned with every day life.

Learning outcome(s) : The learner solves mathematical problems with competence and confidence using the four operations.

Life skills : Accuracy, critical thinking, problem solving, self esteem.

Subject Competences	Language Competences	Content	Suggested Activities
• Adds whole numbers up to 5 digits where the sum does not exceed 99,999.	• Adds and expresses the terms for addition 4 plus 3 equals 7 or 4 and 3 is 7.	• Addition of whole numbers	• Learners in pairs make up simple addition problems using numbers up to 99,999 and ask partner to solve them.
• Subtracts two whole numbers where both terms are not greater than 99,999.	• Expresses subtraction using any of the terms; - "Subtract" - "Take away" - "Minus"	• Subtraction of whole numbers	• Learners in pairs make up simple subtraction story problems. • Using numbers up to 99,999 and asks partner to solve them.
• Multiplies numbers up to 3 digits by 10 and 100.	• Recites the multiplication tables up to 12. • Uses correct mathematical terms for multiplication e.g. 2	• Multiplication of whole numbers by 0, 10 and 100	• The learner multiplies 3 digit numerals by 0, 10 and 100.

Subject Competences	Language Competences	Content	Suggested Activities
	multiplied by 3 equals 6.		
• Multiplies whole numbers up to 3 digits by whole numbers from 0 – 9.	• Introduces the word product for multiplication e.g. what is the product of 102 and 4?	• Multiplication of whole numbers up to 3 digits by whole numbers from 0 to 9.	• The learners in pairs multiply numbers and later individually.
• Divides 4 digit numbers by whole numbers 1 to 10 with and without remainders.	• Uses correctly mathematical terms for division, e.g. 12 divided by 3 equals 4.	• Division of whole numbers by numbers 1 to 10.	• Learners work out a division sum describing each step first in mother tongue then English.
• Applies the operations of addition, subtraction, multiplication and division to solve real life problems.	• Reads problems and makes up others.	• Solution of real life problems.	• Learners solve and form simple number sentences e.g. 4 + □ = 13.
• Solves simple word problems using the four operations.	• Solves word problems both orally and in writing.	• Number sentences	• Learners solve simple real life problems in groups and individually.

Assessment competences:

1. Adds using numbers up to 99,999
2. Subtracts using numbers up to 99,999
3. Multiplies whole numbers up to 3 digits
4. Divides whole numbers by up to 2 digits
5. Applies the four operations on whole numbers in simple word problems.
6. Gives examples showing the relationship between addition and subtraction.

TOPIC: PATTERNS AND SEQUENCES

This topic should be an interesting one with learners making patterns and sequences themselves and testing their neighbours. It begins with revision of simple shapes where the language of English is used orally and in written form. In the learners' dictionary pictures, the names of the shapes should be illustrated with diagrams of the shapes. The use of the words 'pattern' for shapes and colours and 'sequence' for numbers should be pointed out and used correctly and also illustrated in the dictionaries. Many other English phrases are included here for example 'What comes first/next?'

Learning outcome(s) The learner recognizes and forms patterns and sequences using shapes and colours.

Life skills : Logical thinking, problem solving, creative thinking, friendship formation.

Subject Competences	Language Competences	Content	Suggested Activities
• Describes and names common shapes.	• Names shapes in mother tongue and English.	• Different shapes.	• Uses pictures or cut outs of common shapes and ask pupils to identify and name them.
• Identifies even and odd numbers.	• Counts even and odd numbers e.g. even 2 up to 50.	• Even and odd numbers	• Lists even and odd numbers. • Finds sum of even and odd numbers.
• Fills in and continues patterns and sequences from given examples. • Forms patterns and sequences.	• Discusses solution of patterns and sequences and forms others.	• Forming patterns and sequences using the four operations.	• Learners form patterns or sequences of numbers or shapes and solve them.

Assessment competences:

1. Recognizes and names common shapes in local language and English.
2. Writes and reads sequence of even and odd numbers.
3. Forms simple patterns of shapes and sequences of numbers.

TERM II

THEME : NUMERACY

Topic : Fractions (24 periods)

It is important that there is revision of all the work covered in P1-3 at the start of this topic. Many learners find fractions difficult if they do not have a firm foundation of the basic concepts. Using diagrams and dividing real objects helps understanding of the basics. The language of fractions in English is important with knowledge of the difference between proper, improper fractions and mixed numbers necessary. Simple equivalent fractions have been shown in P3 but should be extended here using diagrams and real objects to illustrate.

Finally, an introduction to addition and subtraction of fractions is given using fractions with the same denominators.

Learning outcome(s) The learner demonstrates the concepts of fractions and their relationship in real life situations

Life skills : Creative thinking, accuracy, friendship formation.

Subject Competences	Language Competences	Content	Suggested Activities
• Identifies improper and proper fractions and converts improper fractions to mixed numbers.	• Names fractions, gives examples of fractions that are proper, improper or mixed numbers.	• Proper, improper fraction and mixed numbers.	• Shows using diagrams examples of proper, improper fractions and mixed numbers. • Renames mixed numbers as improper fractions and vice versa.
• Identifies simple equivalent fractions using diagrams	• Describes and names equivalent fractions. • Writes equivalent fractions	• Equivalent fractions.	• Divides up real objects/diagrams (e.g. orange) to show that ½ equals $^{2}/_{4}$ etc. • Works out problems

Subject Competences	Language Competences	Content	Suggested Activities
			involving equivalent fractions.
• Orders fractions with the same denominators.	• Orders fractions with the same denominator • Reads fractions	• Fractions with the same denominator	• Orders and compares fractions.
• Solves simple problems using addition and subtraction of fractions with the same denominator.	• Reads and solves problems involving fractions with the same denominator.	• Fractions with the same denominators.	• Draws diagrams of fractions with the same denominators. • Adds and subtracts fractions with the same denominators.

Assessment competences:

1. Using diagrams, shows proper and mixed numbers
2. Names equivalent fractions and illustrates them.
3. Adds fractions with same denominator.
4. Subtracts fractions with same denominators.
5. Solves simple word problems involving fractions.

THEME : GEOMETRY

Topic : 2- Dimensional Geometry (18 periods)

Manual dexterity is important for Mathematics and learners need to practice using pencils, rulers and compasses. The simple 2-D shapes – triangle, equilateral triangle, squares, rectangles must all be drawn by each individual learner. The names of these shapes in English must also be known and added to the learner's dictionary. The perimeter of shapes is introduced and also area using counting squares to compare areas of shapes.

Learning outcome(s) : The learner demonstrates knowledge of 2-dimensional figures and uses construction instruments in appropriate situations.

Life skills : Creative thinking, Accuracy, Effective Communication

Subject Competences	Language Competences	Content	Suggested Activities
• Identifies 2 - dimensional figures • Names 2- dimensional figures	• Identifies 2- dimensional figures • 2- dimensional figures • Names 2- dimensional figures	• 2-dimensional figures	• Matches pictures of figures to their names in English. • Draws 2-dimensional figures.
• Use construction instruments to draw.	• Identifies and names the instruments for construction	• 2-dimension figures: triangles, squares, rectangles.	• Constructs simple 2-dimensional figures.
• Recognizes right angles	• Points out and names right angles in the classroom and the playground	• Right angles	• Play game to find as many right angles in the classroom and or the playground.
• Measures perimeter of rectangles, squares and triangles. • Finds areas of squares and rectangles.	• Explains the meaning of perimeter in English and illustrates it using his/her exercise book	• Perimeter of squares and rectangles. • Area of squares and rectangles.	• Measures the perimeter of playground using large steps. • Works out perimeter and area of various squares and rectangles.

Assessment competences:

1. Draws simple shapes using instruments correctly
2. Matches shapes to names in English
3. Measures perimeter of real objects
4. Finds and compares areas of different shapes.

Topic : 3 - Dimensional Geometry (8 periods)

Learning outcome(s) The learner recognizes and builds 3-dimensional shapes.

Life skills : Creative thinking, Critical thinking, Problem solving.

Subject Competences	Language Competences	Content	Suggested Activities
• Identifies solid figures • Names solid figures	• Names and identifies common solids in mother tongue and English	• Common solids	• Draws figures showing solids and matches their names.
• Builds models of solids	• Labels the parts of the models of solids built.	• Models of solids	• Learner makes models of common solids and displays them.

Assessment competences:

1. Identifies and names common solids
2. Makes models of simple solids and labels them in English.

Topic : Data handling (Proposed 12 periods)

This should be a fun topic for the learners where they collect, record, display and interpret data from their everyday lives using pictographs, line graphs and bar graphs. They should also know which is best for each set of data. Some completed graphs should be displayed on the classroom walls. Graphs can be used which have been circulated from different government department, for example the Ministry of Health and the Ministry of Education, Local Government.

Learning outcome(s) The learner represents and interprets simple mathematics data in various forms.

Life skills : Effective communication, Critical thinking and friendship formation.

Subject Competences	Language Competences	Content	Suggested Activities
• Uses tally marks to collect and group data	• Counts objects or people • Records	• Tally marks	• Counts tally marks • Counts tally marks • Grouping using tally marks
• Organizes data • Displays data • Interprets data	• Describe the graph • Explains the graph.	• Pictographs • Line graphs • Bar graphs	• Drawing • Reading • Interpreting • Displaying.

Assessment competences:

1. Collects data from home and community
2. Displays data
3. Draws graphs
4. Describes and explains the graph

TERM III

THEME: MEASUREMENT

Topic: Money (16 periods)

This topic should begin with revision of the work covered in P1-3. There should be very practical lessons with role play using the classroom shop. Learners themselves should provide many of the items and they should suggest the price for each and list the items in English with their price. The concept of profit and loss is introduced and these words in English used carefully and written in their dictionary.

Learning outcome(s) The learner recognizes, describes and uses money in buying and selling

Life skills **:** Problem solving. Logical thinking, creative thinking, effective communication.

Subject Competences	Language Competences	Content	Suggested Activities
• Identifies coins and notes.	• Describes different coins and notes	• Uganda currency	• Describing coins and notes.
• Buying and selling	• Role plays using money in English	• Buying and selling	• Role play using money • Calculating
• Calculates simple profit and loss • Costs and pricing	• Uses examples to describe understanding of profit and loss.	• Profit and loss	• Role plays buyer seller • Gives examples of profit and loss • Works out problems involving profit and loss

Assessment competences:

1. Finds different ways of calculating a certain sum of money.
2. Identifies and uses in role play Uganda money
3. Using role play, shows understanding of profit and loss.

Topic : Time (16 periods)

Revision of all the earlier work from P1-3 should be done at the start of this topic using real or model Clocks. There should be practical lessons with learners making a weekly timetable for their homework and a monthly calendar for the classroom wall.

Learning outcome(s) The learner appreciates and uses the concept of time in everyday life situations.

Life skills : Accuracy, problem solving, creative thinking, effective communication and decision making.

Subject Competences	Language Competences	Content	Suggested Activities
• Use different types of Clocks to tell time	• Tells time in both local language and English.	• Telling time	• Using real or model Clocks, the learner tells time
• Converts measures of time e.g. months to days	• Gives months of the year in English • Makes a weekly timetable in his/her exercise book	• Conversion of units of time.	• Makes a calendar showing the months of the year • Works out problems involving time.

Assessment competences:

1. Tells time using digital and analogue Clocks
2. Converts bigger units of time to small ones.

Topic : Length, Mass, Capacity (20 periods)

This topic is a very practical one with the learners doing the measuring themselves in groups. It is similar to a topic in science and it is important that there is not too much repetition and that the lessons are taught in a similar way. At the start of the topic, the need for standard units should be emphasized. This can be done using an experiment measuring length using different learner's feet and so obtaining different measures. The units and the instruments used should be revised for each of mass, length and capacity.

Learning outcome(s) The learner uses standard measuring instruments and converts units of measure.

Life skills : Accuracy, problem solving, creative thinking

Subject Competences	Long Competences	Content	Suggested Activities
• Uses standard measuring instruments to measure length in m. cm. and mm, mass in kg and g, capacity in l and ml.	• Expresses measurement of length, mass and capacity in English of different items. • Makes a table of the different units of length, mass and capacity/volume and shows their abbreviations.	• The use of standard measuring instruments to measure accurately length, mass and capacity.	• In pairs using a standard instrument, measure the height of partner. • Discovers which unit of measurement is appropriate to use in different situations.

Assessment competences:

1. Measures length and mass using correct instruments.
2. Relates the different measures in English for mass, length and capacity.
3. Uses the correct units of mass, length and capacity when solving problems.

THEME: ALGEBRA

Topic: Equations without Letters (8 Periods)

This is an introduction to Algebra but without using letters for numbers. There has been similar work before. By now, the learners are more fluent in their English and by the end of this topic should be able to change simple word problems into mathematical sentences and solve them.

The relationships between addition and subtraction and multiplication and division are also revised.

Learning outcome(s) The learner solves simple mathematical problems in the form of equations with no letters.

Life skills : Critical thinking, problem solving, logical creative thinking, effective communication

Subject Competences	Long Competences	Content	Suggested Activities
• Use the relationships between addition and subtraction and between multiplication and division to solve problems. • Solves simple equations without letters • Changes simple word problems into simple equations without letters.	• Reads and creates simple equations without letters.	• Simple equations without letters. • Using the four operations.	• Ask learners in pairs to solve equations like 4 + ? = 13 and 7 x ? = 42 using addition and subtraction. Then ask them to make up their own. • Writes many equivalent sentences using the relationship between + and – and between x and + e.g. 5 + 17 = 22 is equivalent to 22 – 7 = 5

Assessment competences:

1. Solves simple equations without letters.
2. Forms equations without letters from simple word problems and solving them.