



MATHEMATIC SYLLABUS FOR LOWER PRIMARY (P1-P3)

Second Edition

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FOREWORD

The Rwanda Basic Education Board is honored to present the second edition for the syllabus of Mathematics in Lower Primary (P1-P3). It serves as both official documents and a guide to competence-based teaching and learning. The syllabi ensure consistency and coherence in the delivery of quality education across all levels of general education in Rwandan schools.

The Rwandan education philosophy aims to ensure that young people at every level of education achieve their full potential in terms of relevant knowledge, skills and appropriate attitudes in order to prepare them to be well integrated into society and access employment opportunities.

In line with efforts to improve the quality of education, the government of Rwanda emphasises the importance of aligning the syllabus, teaching and learning and assessment approaches in order to ensure that the system is producing the kind of citizens the country needs. Many factors influence what children are taught, how well they learn and the competencies they acquire, particularly the relevance of the syllabus, the quality of teachers' pedagogical approaches, the assessment strategies and the instructional materials available. The ambition to develop a knowledge-based society and the growth of regional and global competition in the job markets has necessitated the shift to a competence-based syllabus. With the help of the teachers, whose role is central to the success of the syllabus, learners will gain appropriate skills and be able to apply what they have learned in real life situations. Hence they will make a difference not only to their own lives but also to the success of the nation.

I wish to sincerely extend my appreciation to the people who contributed to the development of this document, particularly the REB and its staff who organised the whole process from its inception. Special appreciation goes to the development partners who supported the exercise throughout. Any comment of contribution would be welcome for the improvement of this syllabus.

Dr. MBARUSHIMANA Nelson

Director General REB

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My thanks firstly go to Rwanda Basic Education Board leadership who supervised the curriculum review process and the Rwanda Basic Education Board staff who were involved in the conception, writing, translation and adaptation of the syllabus for Lower Primary Mathematics. I wish to extend my appreciation to teachers and lecturers for their valuable efforts during the development of this syllabus.

I owe gratitude to different education partners such as UNICEF, UNFPA, DFID and Access to Finance Rwanda for their financial and technical support. We also value the contribution of other education partner organisations such as CNLG, AEGIS trust, Itorerory'Igihugu, Gender Monitoring Office, National Unit and Reconciliation Commission, RBS, REMA, Handicap International, Wellspring Foundation, Right to Play, MEDISAR, EDC/L3, EDC/Akazi Kanoze, Save the Children, Faith Based Organisations, WDA, MINECOFIN, Local and international consultants. Their respective initiatives, co-operation and support significantly contributed to the successful production of this syllabus.

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1. INTRODUCTION

1.1 Background to curriculum review

The rationale behind the Lower Primary Mathematics syllabus review process was to ensure that the syllabus is responsive to the needs of the learner and to shift from objective and knowledge-based learning to competency based learning. Emphasis in the review has been on building skills and competencies, as well as streamlining the coherence of the existing content by benchmarking against a number of best practice syllabi.

The new Lower Primary Mathematics syllabus guides the interaction between the teacher and the learner through the learning processes and highlights the essential practical skills and competencies a learner should acquire during and at the end of each unit of learning.

Basing on the Ministerial Order Establishing Curriculum in general, Professional, Technical and Vocational Basic Education N° 002/MINEDUC/2021 of 20/10/2021 that changed the number of periods per week of some subjects, it has been necessary to adapt the syllabi approved in the year 2016 into the second edition.

1.2 Rationale of teaching and learning Mathematics

1.2.1 Mathematics and society

The Lower Primary Mathematics syllabus has put emphasis on integrated production skills and on an integrated approach in all disciplines. Mathematics is an excellent vehicle for the development and improvement of a person's intellectual competence in logical reasoning, spatial visualisation, analysis and abstract thought. Learning mathematics develops numeracy, logical reasoning skills, critical thinking skills, and problem solving skills. This will result in the use of Mathematic in many activities of daily life thereby serving as an important tool to the society. In this way the subject will be demystified and user friendly.

Therefore, Mathematics plays important role in society through abstraction and logic, counting, calculation, measurement, systematic study of shapes and motion. It is also used in natural sciences, engineering, medicine, finance and social sciences. Applied Mathematics such as statistics and probability plays an important role in game of chance, in the national census process, in scientific research, etc. In addition, some cross-cutting issues such as financial awareness are incorporated into some of the Mathematics units to improve the social and economic welfare of Rwandan society.

1.2.2 Mathematics and learners

Learners need enough basic Mathematical competencies to be effective members of Rwandan society, including the ability to count, estimate, measure, calculate, handle and manage money, interpret statistics, assess probabilities, and read commonly used mathematical representations and graphs. Reading or listening to the news requires many of these competencies and citizenship requires being able to interpret critically the information one receives. For example, understanding an age-length or age-weight graph helps parents and health practitioners monitor the health of a child.

Mathematics also equips learners with knowledge, skills and attitudes necessary to enable them to succeed in an era of rapid technological growth and socio-economic development. Mastery of basic mathematical ideas and operations should make learners confident in problem-solving in life situations. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics and a sense of enjoyment and curiosity about the subject.

In this syllabus the teacher has the task of trying to make mathematics a reality in life. 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 learners to explore, try different procedures and solve problems practically. Learning mathematics needs to include practical problem-solving activities with opportunities for learners to plan their own investigations and develop their mathematical competency and confidence. New technologies have had a dramatic impact on all aspects of life. For this reason, wherever possible in mathematics, learners should gain experience of a range of ICT applications.

1.2.3. Competences

Competence is defined as the ability to perform a particular task successfully, resulting from having gained an appropriate combination of knowledge, skills and attitudes.

The Mathematics syllabus provides the opportunity for learners to develop different competencies, including the generic competencies.

Basic competencies are addressed in the stated broad subject competences and in objectives highlighted year on year basis and in each of units of learning. The generic competencies, basic competences that must be emphasised and reflected in the learning process are briefly described below and teachers will ensure that learners are exposed to tasks that help the learners acquire the skills.

Generic competences and values

Critical and problem solving skills: Learners use different techniques to solve mathematical problems related to real life situations. They are engaged in mathematical thinking, they construct, symbolise, apply and generalise ideas.

The acquisition of such skills will help learners to think imaginatively and broadly to evaluate and find solutions to problems encountered in all situations.

Creativity and innovation: The acquisition of such skills will help learners to take initiatives and use imagination beyond the knowledge provided to generate new ideas and construct new concepts. Learners will improve these skills through mathematics contests, and mathematics competitions, etc.

Research: This will help learners find answers to questions based on existing information and concepts as well as explain phenomena based on findings from information gathered.

Communication in official languages: Learners communicate effectively their findings through explanations, construction of arguments and drawing relevant conclusions.

Mathematics teachers, irrespective of not being teachers of language, will ensure the proper use of the language of instruction by learners. This will help learners communicate clearly and confidently and convey ideas effectively through speaking and writing and use the correct language structure and relevant vocabulary.

Cooperation, inter personal management and life skills: Learners are engaged in cooperative learning groups to promote higher achievement rather than competitive and individual work.

This will help learners to co-operate with others as a team in whatever task are assigned and to practice positive ethical moral values and respect for the rights, feelings and views of others. Learners will perform practical activities related to environmental conservation and protection. They will also advocate for personal, family and community health, hygiene and nutrition and respond creatively to the variety of challenges encountered in life.

Lifelong learning: The acquisition of such skills will help learners update their knowledge and skills with minimum external support and to cope with the evolution of advances in knowledge for personal fulfillment in areas that need improvement and development.

Broad mathematics competences

During and at the end of the learning process, the learner can:

- Promote problem solving in life situations;
- Develop and enrich their aesthetic and linguistic experiences;

- Promote scientific, technical and cultural knowledge, skills and positive attitudes needed to promote development, self-sufficiency and wealth;
- Apply acquired mathematics knowledge and skills in future training;
- Work in a systematic way to develop clear, logical, coherent and creative reasoning;
- Develop imagination, initiative and flexibility of mind;
- Describe, explain, interpret and analyse information;
- Use acquired knowledge and skills to succeed in an era of rapid technological growth and socio-economic development;
- Use ICT tools to solve mathematical problems.

Mathematics and developing competences

The national policy documents based on national aspirations identify some ‘Basic Competencies’ alongside the ‘Generic Competencies’ that will develop higher order thinking skills and help learners learn subject content and promote the application of acquired knowledge and skills.

Through observations, constructions, hands-on manipulations, generalisations, and presentations of information during the learning process, the learner will not only develop deductive and inductive skills but also acquire co-operation, communication, critical thinking and problem solving skills. This will be realised when learners make presentations leading to inferences and conclusions at the end of the learning unit. This will be achieved through group work activities and cooperative learning which in turn will promote interpersonal relations and teamwork.

The acquired knowledge in learning mathematics should develop a responsible citizen who adapts to scientific reasoning, attitudes and develops confidence in reasoning independently.

2. PEDAGOGICAL APPROACH

The change to a competence-based curriculum is about transforming learning to ensure that learning is deep, enjoyable and habit-forming.

IT in general and particularly ICT should be used as a pedagogical tool to facilitate teaching and learning of mathematics. Various teaching strategies and approaches such as direct instruction, discovery learning, investigation, guided discovery or other methods must be incorporated.

Among the approaches that can be given consideration include the following:

- Learner-centred learning;
- Different learning abilities and styles of learners (individualisation);
- Use of relevant, suitable and effective teaching materials;
- Formative evaluation to determine the effectiveness of teaching and learning processes.

The choice of a suitable approach will stimulate the teaching and learning environment inside or outside the classroom.

Suitable approaches include the following:

- Co-operative learning;
- Contextual learning;
- Mastery learning;
- Constructivism.

2.1 The role of the learner

In the competence-based curriculum, the learner is the principal actor of his/her education. He/she is not an empty bottle to fill. Taking into account the initial capacities and abilities of the learner, the activities of the learner are indicated against each learning unit and reflect appropriate engagement of the learner in the learning process. The teaching-learning process will be tailored towards creating a learner friendly environment based on capabilities, needs, experience and interests.

Therefore, the following are some of the roles or expectations from learners:

- Learners construct the knowledge either individually or in groups in an active way. From the learning theory, learners move in their understanding from concrete through to pictorial to abstract. Therefore, the opportunities should be given to learners to manipulate concrete objects and to use models.
- Learners will be encouraged to do research and present their findings through group work activities.
- A learner is co-operative: learners work in heterogeneous groups to increase tolerance and understanding.
- Learners are responsible for their own participation and for making sure others participate.
- Help is sought from within the group and the teacher is asked for help only when the whole group agrees to ask a question.
- Consensus on the answer is required from the whole group.
- The group evaluates its own strategies and ideas rather than relying on the teacher for this evaluation.
- The learners who learn at a faster pace do not do the task alone and then the others merely sign off on it.
- Participants ensure the effective contribution of each member, through clear explanation and articulation of constructive arguments, to improve their English literacy, develop a sense of responsibility and to increase their selfconfidence, and public speaking ability, etc.

2.2 The role of the teacher

Some of the specific duties of the teacher when implementing competence-based activities are as follows:

- He/she is a facilitator: his/her role is to provide opportunities for learners to meet problems that create interest and challenge them and that, with appropriate effort, they can solve.
- He/she is an organiser: his/her role is to organise the learners, in the classroom or outside, and engage them through participatory and interactive methods through the learning processes as individuals, in pairs or in groups. To ensure that the learning is personalised, active and participative, the teacher must identify the needs of the learners, the nature of the learning to be done, and the means to shape learning experiences accordingly.
- He/she is an advisor: he/she provides counseling and guidance for learners in need. He/she comforts and encourages learners by valuing their contributions in the class activities.
- He/she is a conflict-solver: when members of a group have problems such as the attribution of tasks he/she should provide useful and constructive ideas. The teacher should settle disputes among the group.
- He/she is ethical: he/she teaches by example, by being impartial, by being a role-model, and by caring for individual needs, especially for slow learners and learners with physical impairments.

2.3 Special needs education and inclusive approach

All Rwandans have the right to access education regardless of their different needs. The underpinnings of this provision would naturally hold that all citizens benefit from the same menu of educational programs. The possibility of this assumption is the focus of special needs education. The critical issue is that we have persons/learners who are totally different in their ways of living and learning as opposed to the majority. The difference can either be emotional, physical, sensory and/or intellectual learning challenged, traditionally known as mental retardation.

These learners equally have the right to benefit from the free and compulsory basic education in nearby ordinary/mainstream schools. Therefore, the schools' role is to enroll them and also set strategies to provide relevant education for them. The teacher therefore is requested to consider each learner's needs during the teaching and learning process. Assessment strategies and conditions should also be standardised to the needs of these learners. Detailed guidance for each category of learners with special education needs is provided for in the guidance for teachers.

3. ASSESSMENT APPROACH

Assessment evaluates the teaching and learning process through collecting and interpreting evidence of an individual learner's learning progress and makes a judgment about the learner's achievements measured against defined standards. Assessment is an integral part of the teaching learning process. In the new competence-based curriculum, assessment must also be competence-based, whereby a learner is given a complex situation related to his/her everyday life and asked to try to overcome the situation by applying what he/she has learned.

Assessment will be organised at the following levels: School-based assessment, District examinations, National assessment (LARS) and National examinations.

3.1 Types of assessments

3.1.1. Formative assessment:

Formative assessment helps to check the efficiency of the process of learning. It is done within the teaching/learning process. Continuous assessment involves formal and informal methods used by schools to check whether learning is taking place. When a teacher is planning his/her lesson, he/she should establish the criteria for performance and behavioral changes at the beginning of a unit. Then at the end of every unit, the teacher should ensure that all the learners have mastered the stated key unit competencies based on the criteria stated, before going to the next unit. The teacher will assess how well each learner masters both the subject and the generic competencies described in the syllabus and from this, the teacher will gain a picture of the all-round progress of the learner. The teacher will use one or a combination of the following: (a) observation (b) pen and paper (c) oral questioning.

3.1.2. Summative assessments:

When assessment is used to record a judgment of the competence or the performance of the learner, it serves a summative purpose. Summative assessment gives a picture of a learner's competence or progress at any specific moment. The main purpose of summative assessment is to evaluate whether learning objectives have been achieved. The results of summative assessment are also used to rank or grade learners, for deciding on progression, for selection into the next level of education and for certification. This assessment should have an integrative aspect whereby a learners must be able to show mastery of all competencies.

Summative assessment can be internal school based assessment or external assessment in the form of national examinations. School based summative assessment should take place once at the end of each term and once at the end of the year. School summative assessment average scores for each subject will be weighted and included in the final national examinations grade. School based assessment average grades will contribute a certain percentage as teachers gain more experience and confidence in assessment techniques. In the third year of the

implementation of the new curriculum it will contribute 10% of the final grade, but will be progressively increased. Districts will be supported to continue their initiatives to organise a common test per class for all the schools to evaluate the performance and the achievement level of learners in each individual school. External summative assessment will be done at the end of P6, S3 and S6.

3.2 Record keeping

This is gathering facts and evidence from assessment instruments and using them to judge the learners's performance by assigning an indicator against the set criteria or standard. Assessment procedures generate data in the form of scores which will be carefully be recorded and stored in a portfolio. These scores will contribute to remedial actions and alternative instructional strategies. They will also be used to provide feedback to the learner and their parents to check learning progress and to provide advice, as well as be used in the final assessment of the learners.

This portfolio is a folder (or binder or even a digital collection) containing the learners's work as well as the learners's evaluation of the strengths and weaknesses of their work. Portfolios reflect not only the work produced (such as papers and assignments), but also provide a record of the activities undertaken over time as part of learners learning.

Besides, it will serve as a verification tool for each learner that he/she attended the whole learning before he/she undergoes the summative assessment for the subject.

3.3 Item writing in summative assessment

When developing a question paper, a plan or specification of what is to be tested or examined the assessment task must show the units or topics to be tested, the number of questions in each level of Bloom's taxonomy and the marks allocation for each question. In a competency-based curriculum, questions from higher levels of Bloom's taxonomy should be given more weight than those from the knowledge and comprehension level.

Before developing a question paper, the item writer must ensure that the test or examination questions are tailored towards competency based assessment by doing the following:

- Identify topic areas to be tested on from the subject syllabus.
- Outline the subject-matter content to be considered as the basis for the test.
- Identify learning outcomes to be measured by the test.
- Prepare a table of specifications.
- Ensure that the verbs used in the formulation of questions do not require memorisation or recall answers only but test for broad competencies as stated in the syllabus.

Structure and format of the examination

At the end of this level, the paper for the exam will be comprised of two sections. The first section will be composed of short answer items or items with short calculations which include questions testing for knowledge and understanding, investigation of simple patterns, quick calculations and applications of mathematics in real life through simple word problems. The second section will be composed of long answer items or answers with constructions, simple demonstrations, investigation of simple patterns and generalisation, interpretation and explanations. The items for the second section will emphasise the mastering of mathematical facts, the understanding of mathematical concepts and their application in real life situations. In this section, the assessment will find out not only what skills and facts have been mastered, but also how well learners understand the process of solving a mathematical problem and whether they can link the application of what they have learned to the context or to the real life.

The following topic areas have to be assessed: Numbers and operations; algebra, measurements and money; Directions and shapes, directions and geometry; Introduction to statistics. Topic areas with more weight will have more emphasis in the second section where learners should have the right to choose to answer to a given number of questions.

3.4 Reporting to parents

The wider range of learning in the new curriculum means that it is necessary to think again about how to share a learners' progress with their parents. A single mark is not sufficient to convey the different expectations of learning that are outlined in the learning objectives. The most helpful reporting is to share with parents what learners are doing well and where they need to improve.

4. RESOURCES

4.1 Materials needed for implementation

The use of teaching resources and teaching materials is crucial in guiding learners to develop mathematical ideas.

Teachers should use real or concrete materials to help learners gain experience, construct abstract ideas, make inventions, build self-confidence, encourage independence and inculcate the spirit of cooperation. Some resources that can be used are:

- Reference books
- Manila cards
- Geometrical instruments like rulers, pair of compasses, rubbers, pencils, dividers, sharpeners etc

- Computers
- Projectors
- Graph paper
- Abacus
- Calculator
- Counters, etc.

4.2 Human resource

The effective implementation of this curriculum requires a joint collaboration of educators at all levels. Given the material requirements, teachers are expected to accomplish their noble role as stated above. School head teachers and directors of studies are required to follow-up and assess the teaching and learning of Mathematics. These combined efforts will ensure bright future careers and lives for learners as well as the contemporary development of the country.

In a special way, a teacher of Mathematics at ordinary level should have a firm understanding of mathematical concepts at the level he/she teaches. He/she should be qualified in mathematics and have firm ethical conduct. The teacher should possess the qualities of a good facilitator, organiser, problem solver, listener and adviser. He/she is required to have basic skills and competence of guidance and counseling because learners may come to him/her for advice.

Skills required for the Teacher of Mathematics

The teacher of mathematics should have the following skills, values and qualities:

- Engage learners in variety of learning activities.
- Use multiple teaching and assessment methods.
- Adjust instruction to the level of the learners.
- Use creativity and innovation in the teaching and learning process.
- Be a good communicator and organiser.
- Be a guide/facilitator and a counselor.
- Manifest passion and impartial love for children in the teaching and learning process.
- Link the use of mathematics with other subjects and real life situations.

- Have good mastery of mathematics content.
- Have good classroom management skills.

5. SYLLABUS UNITS

5.1 Presentation of the structure of the syllabus units

The Mathematics subject is taught and learnt in Lower primary education as a core subject, i.e. in P.1, P.2 and P.3 respectively. At every grade, the syllabus is structured in Topic Areas, sub-topic Areas where applicable and then further broken down into Units. This breakdown promotes the uniformity, effectiveness and efficiency of teaching and learning Mathematics. The Units have the following elements:

1. Each Unit is aligned with the number of periods
2. Each Unit has a Competence whose achievement is pursued by all teaching and learning activities undertaken by both the teacher and the learners.
3. Each Unit Key Competence is broken into three types of Learning Objectives as follows:
 - a. *Type I*: Learning Objectives relating to Knowledge and Understanding. *Type I* Learning Objectives are also known as Lower Order Thinking Skills or LOTS.
 - b. *Type II and Type III*: These Learning Objectives relate to acquisition of skills, Attitudes and Values. *Type II* and *Type III* Learning Objectives are also known as Higher Order Thinking Skills or HOTS. These Learning Objectives are actually considered to be the ones targeted by the present reviewed curriculum.
4. Each Unit has content that indicates the scope of coverage of what is to be taught and learnt in line with the stated Learning Objectives.
5. Each Unit suggests a non-exhaustive list of learning activities that are expected to engage learners in an interactive learning process as much as possible (learner-centred and participatory approach).
6. Finally, each Unit is linked to other subjects, the assessment criteria and the materials (or Resources) that are expected to be used in the teaching and learning process.

The Mathematics syllabus for Lower primary level has got 42 units: 14 in P1, 14 in P2 and 14 in P3.

5.2 Mathemaics Syllabus for P 1

Key competences

1. Counting, reading, writing, ordering and comparing whole numbers from 0 up to 100, decomposing numbers and using effectively and rapidly rules of counting (+, -, x, :) in numbers with 2 digits.
2. Making a whole unit using fractions of real objects and using properly the fractions $\frac{1}{2}$ and $\frac{1}{4}$ in daily life.
3. Measuring and comparing length of various real objects with length less than or equal to 10 m and working out exercises and word problems involving addition and subtraction in meters.
4. Ordering days of the week and giving examples of daily activities in different days of the week.
5. Differentiating coins of Rmwandan currency from 1Frw up to 100 Frw, exchanging money and solving word problems involving addition and subtraction.
6. Grouping real objects and describing the values of working together with others.
7. Describing, explaining information that is represented on a graph and identifying the quantity of objects used on a graph
8. Identifying a square and a rectangle from other geometric shapes and giving examples of different tools having similar shapes as a square or a rectangle.

Topic Area: Numbers and Operations				Sub-Topic area: Whole numbers from 0 up to 100	
Primary One Mathematics		Unit 1: Whole Numbers from 1 to 5		Number of periods: 48	
Key Unit competence: To be able to count, read, write, compare, add and subtract whole numbers from 1 to 5					
Learning Objectives			Content	Learning Activities	
Knowledge and Understanding	Skills	Attitudes and Values			
<ul style="list-style-type: none"> - Understand and discover the concept of a number from 1 to 5. - Clearly understand the use of addition, subtraction and equal signs: +, - and = - Mentally add numbers whose sum does not exceed 5 - Mentally subtract 	<ul style="list-style-type: none"> - Count, read, write, order, numbers from 1 to 5. - Group various objects /draw groups of various objects which the number does not exceed 5 - Compare groups of objects which the number does not exceed 5. - Add and subtract numbers by counting and writing (the sum should not exceed 5) - Read whole numbers from 1 to 5 wherever they are written. - Differentiate and compare 	<ul style="list-style-type: none"> - Count without mistakes. read fluently and write correctly the learnt numbers (from 1 to 9) - Apply correctly numbers from 1 to 5 in daily life. - Show orderliness in daily life - Appreciate the importance of learning counting, reading and writing numbers 	<ul style="list-style-type: none"> - Counting objects in groups from 1 to 5. - Pronunciation, reading and appropriate writing of numbers from 1 to 5. - Comparing the number of objects not exceeding 5 - Sum of whole numbers less than or equal to 5. - Addition of numbers with the sum does not exceed 5. - Subtraction of numbers with the first term 	<ul style="list-style-type: none"> - Using songs, rhymes, number line, games in counting and quick ordering numbers and groups of various objects, learners should answer the asked questions in relation with what they observed. <p>Example: Which number did you find? What is the number you can add or subtract to get a given sum or difference, determine that number.</p> <ul style="list-style-type: none"> - Each learner reads the number shown on a number card and show it using counters. - Each learner uses a finger to write the number in various location: In the air, on the desk starting from the learnt lines. - Each learner compares groups of various objects showing less or more. - In groups, learners show the sums of different numbers either by writing or using counters (Example: $5=4+1$; $5=3+2$; $5=2+1+2, \dots$) - In pairs, learners answer the questions about addition and subtraction by counting, writing, using various 	

numbers whose first term does not exceed 5.	<p>the number of objects which do not exceed 5.</p> <ul style="list-style-type: none"> - Order whole numbers which do not exceed 5 using symbols of comparison. - Solve real life problems involving whole numbers from 1 to 5 	<p>in daily life.</p> <ul style="list-style-type: none"> - Develop the culture of working together with other harmoniously. 	<p>does not exceed 5.</p> <ul style="list-style-type: none"> - Word problems on addition and subtraction of whole numbers (the sum and the first term should not exceed 5) 	<p>counters, sums of drawings, games for mental arithmetic (Example: add one, subtract one, add two, subtract two,....)</p> <ul style="list-style-type: none"> - In groups learners solve simple word problems related to their daily life. - In groups, learners discuss about the schedule of their daily activities and the importance of counting, reading and writing, comparing, ordering, adding and subtracting numbers in daily life.
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Links to other subjects: English (*reading and using words containing numbers*), music (*songs used in counting*), physical sports (*games about counting in groups*), elementary science and technology (*attributing the numbers to groups of objects and counting of various objects*),...

Assessment criteria: Learners can read and write numbers from 1 to 5, order and compare numbers from the greatest to the lowest or vice versa, count groups of various objects, select /pick all numbers less than or equal to 5 from other number, add and subtract whole numbers less than or equal to 5.

Teaching/ learning aids: Various counters (bottles, stones,), number cards, from number one to five.

Primary One Mathematics		Unit 2: Whole Numbers from 1 to 9		Number of periods: 48
Key Unit competence: To be able to count, read, write, compare, add and subtract whole numbers from 1 to 9				
Learning objectives			Content	Learning activities
Knowledge and understanding	Skills	Attitudes and Values		
<ul style="list-style-type: none"> -Understand and discover the concept of a number from 1 to 9. -Clearly understand the symbols of comparison: <, >, = and mental arithmetic on comparison of numbers from 1 to 9. - Mentally add numbers whose sum does not exceed 9. -Mentally subtract numbers whose first term does not exceed 9. 	<ul style="list-style-type: none"> -Count, read, write and order numbers from 1 to 9. -Group objects/drawing groups of various objects whose number does not exceed 9 -Compare groups of objects whose number does not exceed 9 -Add and subtract numbers by counting and writing (the sum should not exceed 9) -Read numbers from 1 to 9 wherever they are written. -Differentiate and compare the number of 	<ul style="list-style-type: none"> - Count without mistakes. read fluently and write correctly the numbers learnt (from 1 to 9) - Apply correctly numbers from 1 to 9 in daily life. - Show orderliness in their daily life. - Appreciate the importance of learning counting, reading and writing numbers in their daily life. - Develop the culture of working together with others in 	<ul style="list-style-type: none"> - Counting objects in groups from 1 to 9. - Pronunciation, reading and appropriate writing of numbers from 1 to 9. - Comparing the number of objects not exceeding 9 - Sum of whole numbers less than or equal to 9. - Addition of numbers whose sum does not exceed 9. - Subtraction of numbers whose first term does not exceed 9. - Comparison of 	<ul style="list-style-type: none"> - Using songs, rhymes, number line, games in counting and quick ordering numbers and groups of various objects, learners answer the questions related to the lesson learnt. Example: Which number did you find? What is the number can you add or subtract to get a given sum or difference, determine that number,... - Each learner, reads the number shown on a number card and show it using counters. - Each learner uses a finger to write the numbers in various location: In air, on the desk, starting from the learnt lines. - Each learner compares groups of various objects showing less or more objects. - In groups, learners show the sum of different numbers either by writing or using counters Example: $9= 4+5$; $9=3+9$; $9=3+4+2$,... - In pairs, learners answer the questions involving addition and subtraction of numbers from 1 to 9 by counting, writing, using various counters, drawings and games for mental arithmetic Example: Add

	<p>objects less than or equal to 9.</p> <ul style="list-style-type: none"> -Order his/her daily activities (five activities per day) starting from morning. -Compare numbers less than or equal to 9 using comparison symbols (<,>, or =) -Solve real life problems involving whole numbers from less than or equal to 9 	<p>harmony.</p>	<p>numbers from 1 to 9 using comparison simbols (<,> or =)</p> <ul style="list-style-type: none"> -Word problems involving addition and subtraction numbers less than or equal to 9 (the sum and the first term should not exceed 9) 	<p>one, subtract one, add two, subtract two,....</p> <ul style="list-style-type: none"> - In groups learners solve simple word problems related to their daily life. - In groups,learners discuss about the schedule of their daily activities and the importance of counting, reading and writing, comparing, ordering, adding and subtracting numbers in daily life.
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Links to other subjects: *English (reading and using words containing numbers), music (songs about counting), physical sports (games about counting in groups), Elementary Science and Technology (attributing to groups of objects and counting of various objects),...*

Assessment criteria: *Learners can write and read numbers from 1 to 9, order and compare numbers from the greatest to the lowest or vice versa, count groups of various objects, select /pick all numbers less than or equal to 9 from other number, add and subtract numbers from 1 to 9.*

Teaching/ learning aids: *Various counter (bottles, stones,.....), number cards, from number 1 to 9.*

Primary One Mathematics	Unit 3: Whole Numbers from 0 up to 10	Number of periods: 16
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Key Unit competence: To be able to count, read, write, compare, add and subtract whole numbers from 0 to 10

Learning objectives			Content	Learning activities
Knowledge and understanding	Skills	Attitudes and Values		
<ul style="list-style-type: none"> - Discover and understand the concept of numbers 0 and 10 -Mentally add and subtract numbers less than or equal to 10. 	<ul style="list-style-type: none"> - Count, read, write, order, numbers from 0 up to 10. -Group various objects less than or equal to 10 using counters/drawings. -Count and list scholastic and household materials whose number does not exceed 10. -Compare groups of objects having elements or members less than or equal to 10. -Compare two numbers less than or equal to 10 using comparison symbols (<,> or =) -Addition and subtraction 	<ul style="list-style-type: none"> -Count without mistakes, read fluently and write correctly numbers learnt (from 0 to 10) - Apply correctly numbers from 0 up to 10 in daily life - Show order in various activities of daily life - Appreciate the importance of learning counting, reading and writing numbers in the daily life. - Develop the 	<ul style="list-style-type: none"> - The concept of zero - Reading and writing numbers from 0 to 10. - Counting objects in various groups from 0 up to 10. - Comparing two numbers less than or equal to 10 using comparison symbols (<,> or =). - Addition of two numbers whose sum is less than or equal to 10 - Subtraction of numbers whose first term does not exceed 10. - Word problems involving addition and 	<ul style="list-style-type: none"> - In groups, learners show the concept of zero using subtraction of counters until they remain with nothing - Using songs, rhymes, number line, games in counting and quick ordering of numbers and groups of various objects, learners answer the questions related to the lesson learnt. Example: Which number did you find? What is the number you can add or subtract to get a given sum or difference, determine that number.. - Each learner will decompose the number 10 showing that it is formed by two digits (1 and 0) - Individually, each learner reads the number shown shown on a number card and match it with counters. - Each learner uses a finger to write the numbers in various location: In air, on the desk, ... starting from the learnt lines.

	<p>of numbers (the sum and the terms used should not exceed 10)</p> <p>-Solve real life problems involving whole numbers from less than or equal 0 to 10</p>	<p>culture of working together with others in harmony.</p>	<p>subtraction of numbers (the sum and the first term should not exceed 10)</p>	<ul style="list-style-type: none"> - Each learner compare the groups of various objects showing less or more objects. - In groups, learners show the sum of different numbers either by writing or using counters (Example: $10= 4+6$; $10=3+2$; $10=3+2+5$;....) - In pairs, learners answer the questions involving addition and subtraction of numbers from 0 up to 10 by counting, writing, using various counters, drawings and games for mental arithmetic: Example: Add one, subtract one, add two, subtract two,....) - In groups learners solve simple word problems related to their daily life. - In groups, learners discuss about the schedule of their daily activities and the importance of counting, reading and writing, comparing, ordering, adding and subtracting numbers in their daily life.
<p>Links to other subjects: English (<i>reading and telling words containing numbers</i>), music (<i>songs about counting</i>), physical sports (<i>games about counting in groups</i>), Elementary Science and Technology (<i>attributing the numbers to the groups of objects and counting of various objects</i>),...</p>				
<p>Assessment criteria: Learners can write and read numbers from 0 to 10, order and compare numbers from the greatest to the lowest or vice versa, count groups of various objects, select/pick all numbers less than or equal to 10 from other number, add and subtract numbers from 0 up to 10.</p>				
<p>Teaching/ learning aids: Various counters (bottles, stones,.....), number cards having numbers from 0 up to 10.</p>				

Primary One Mathematics		Unit 4: Whole Numbers from 0 up to 20		Number of periods:24	
Key Unit competence: To be able to count, read, write, compare, add and subtract whole numbers <i>0 up to 20</i>					
Learning objectives			Content	Learning activities	
Knowledge and understanding	Skills	Attitudes and Values			
<ul style="list-style-type: none"> - Discover-and Understan the concept of numbers from 0 up to 20 - Understand the place value of the digits in numbers not exceeding 20. - Mentally add and subtract numbers less than or equal to 20. 	<ul style="list-style-type: none"> - Group various objects whose number does not exceed 20. - Count, read, write, and order numbers less than or equal to 20. - Count and list scholastic and household materials whose number does not exceed 20. - Read sign posts showing numbers less than or equal to 20. Example: Number of the house, number of the road,... - Compare the quantity of various objects showing less and more quantity and 	<ul style="list-style-type: none"> - Show orderliness in daily activities. - Appreciate the importance of addition and subtraction in daily life. 	<ul style="list-style-type: none"> • Counting various objects in groups from 0 up to 20. • Reading and writing numbers from 0 up to 20. • Decomposing two digit numbers less than or equal to 20 • Ordering numbers from 0 up to 20 and comparing numbers using the symbols of comparison (<, >, or =) • Addition of numbers whose sum does not exceed 20. - Subtraction of numbers whose first term does not exceed 20 • Word problems involving addition and subtraction (the sum and the first term should not 	<ul style="list-style-type: none"> - Individually, grouping various objects and counting them. (The sum of each type of objects must be less than or equal to 20) - In small groups,exercises on reading and writing numbers from 0 up to 20 using number cards - In small groups ,mental arithmetics involving addition and subtraction of numbers (the sum and the first term should not exceed 20) using games, counters and number cards. - In pairs, learners use a number line to count in descending order then arrange numbers following a given interval. - Each learner compare groups of various objects showing which is more or less or equal quantity using comparison symbols (<, > or =) - In pairs, learners decompose numbers into ones and tens using 	

	<p>order numbers less than or equal to 20 from the smallest to the greatest.</p> <ul style="list-style-type: none"> - Decompose numbers less than or equal to 20 into ones and tens. - Add and subtract numbers (the sum and the terms used should not exceed 20). - Solve real life problems involving whole numbers from 0 to 20 		<p>exceed 20)</p>	<p>abacus or numeration table.</p> <ul style="list-style-type: none"> - In groups, learners find the sum of different numbers less than or equal to 20 either by writing or using counters Example: $20=14+6$; $20 = 13 + 2 +5; \dots$) - In groups, learners solve word problems involving addition and subtraction of numbers (the sum and the first term should not exceed 20). - In groups, learners discuss the importance of addition and subtraction in daily life.
<p>Links to other subjects: English (reading and determining the words containing numbers), music (songs about counting), physical sports (games about counting in groups), Elementary Science and Technology (attributing numbers to groups of objects and counting of various objects),...</p>				
<p>Assessment criteria: Learners can write and read numbers from 0 to 20, order and compare numbers from the greatest to the lowest or vice versa, count groups of various objects, select/pick all numbers less than or equal to 20 from other numbers, add and subtract numbers from 0 up to 20.</p>				
<p>Teaching/ learning aids: Various counters (bottles, stones,.....), number cards having numbers from 0 up to 20.</p>				

Primary One Mathematics		Unit 5: Multiplication and division by 2		Number of periods: 8	
<p>Key Unit competence: To be able to multiply and divide by 2 (The product and the dividend should not exceed 20).</p>					
Learning objectives			Content	Learning activities	
Knowledge and understanding	Skills	Attitudes and Values			
<ul style="list-style-type: none"> - Understand the concept of multiplication by 2 using repetitive addition. - Understand the concept of exact division of numbers by 2 (The dividend should not exceed 20) 	<ul style="list-style-type: none"> - Multiply by 2 (The product should not exceed 20) - Exactly divide various objects by 2, (The dividend should not exceed 20)/ exactly divide numbers by two. - Solve real life problems involving multiplication and division by 2 	<ul style="list-style-type: none"> -Work courageously and show the importance of multiplication in daily life. -Appreciate the importance of division in daily life -Develop the culture of good relationship and sharing with others. 	<ul style="list-style-type: none"> - Multiplication by 2 numbers whose product does not exceed 20 - Multiples of 2 less than or equal to 20 - Exercises on multiplication by 2 (The product should not exceed 20) - Word problems involving multiplication by 2 (The product should not exceed 20). - Exact division of numbers by 2 (The dividend should not exceed 20 and the quotient should not exceed 10). - Exercises on exact division of numbers by 2 	<p>In groups,</p> <ul style="list-style-type: none"> - learners make /draw groups of 2 counters,4 counters,6 counters,8 counters,10 counters,12 counters,14 counters,16 counters,18 counters,20 counters, they show the frequency of counters used then and write the multiples of 2 in figures. - Learners play various games and use rhymes involving multiples of 2. - Learners divide multiples of 2 by 2 using counters. - Learners do exercises on multiplication of numbers and the division of numbers by 2. (The product and the dividend should not exceed 20). - Learners solve word problems involving multiplication of numbers by 2 and exact division of numbers by 2. (The product and the dividend should not exceed 20). 	

			- Word problems involving exact division of numbers by 2.	
Links to other subjects: Languages in reading and vocabulary, physical sports				
Assessment criteria: Learners will be able to multiply numbers by 2 and divide numbers by 2, the product should not exceed 20 while the quotient should not exceed 10 and to solve word problems related to daily life situations				
Teaching/ learning aids: Various counters (bottles, stones ...), number cards having numbers from 0 up to 20.				

Topic Area: Numbers and Operations				Sub-Topic Area : Numbers from 0 up to 100
Primary One Mathematics		Unit 6: Numbers from 0 up to 50		Number of periods: 28
Key Unit competence: To be able to count, read, write, order, compare, add and subtract <i>whole numbers from 0 up to 50</i>				
Learning objectives			Content	Learning activities
Knowledge and Understanding	Skills	Attitudes and Values		
<ul style="list-style-type: none"> - Discover and Understand the concept of numbers from 0 up to 50 - Understanding the place values of the digits in numbers not exceeding 50. - Add and subtract numbers not exceeding 50. 	<ul style="list-style-type: none"> - Group various objects whose number does not exceed 50 - Count, read, order, numbers less than or equal to 50. - Compare the quantity of various objects showing less and more quantity, order numbers less than or equal to 50 from the smallest to the greatest. - Decompose numbers less than or equal to 50 into ones and tens. - Add and subtract numbers (the sum and the terms 	<ul style="list-style-type: none"> - Show-orderliness in daily activities - Appreciate the importance of addition and subtraction in daily life. 	<ul style="list-style-type: none"> • Counting objects in groups from 1 up to 50. • Reading and writing numbers from 0 up to 50. • Decomposition of numbers into ones and tens • Ordering and comparing numbers up to 50 using the symbols of comparison (<, > and =). • Addition of numbers whose sum does not exceed 50. • Subtraction of numbers less than or equal to 50. • Word problems involving 	<ul style="list-style-type: none"> - In pairs, make groups of various objects from 1 up to 50 and count them. - Individually, read and write numbers from 1 up to 50. - In groups, use games, counters and number cards to add and subtract the numbers whose sum or difference does not exceed 50. - In pairs, use a number line to count in descending order following a given interval - Arrange numbers either in ascending or descending order following a given interval or using a number line. - Each learner compares groups of various objects showing less and more using the symbols of comparison (<, >, =) - In pairs, they decompose numbers into ones and tens using abacus or numeration table In groups, learners do exercises on addition of numbers(the sum less or equal

	<p>used should not exceed 50).</p> <p>-Solve real life problems involving whole numbers less than or equal to 50.</p>		<p>addition and subtraction of numbers less than or equal to 50.</p>	<p>to 50)</p> <p>Example: $50= 40+10$; $50=30+15+5$;....)</p> <ul style="list-style-type: none"> - In groups, learners solve word problems involving addition and subtraction of numbers less than or equal to 50 and discuss the importance of addition and subtraction in daily life.
<p>Links to other subjects: English (<i>reading and using words containing numbers</i>), music (<i>songs about counting</i>), physical sports (<i>games about counting in groups</i>), elementary science and technology (<i>attributing numbers to groups objects and counting of various objects</i>),...</p>				
<p>Assessment criteria: Learners can write and read numbers from 0 up to 50, order and compare numbers from the greatest to the lowest or vice versa, counting groups of various objects, select/pick all numbers less than or equal to 50 from other numbers, add and subtract numbers from 0 to 50.</p>				
<p>Teaching/ learning aids: Various counters (<i>bottles, stones,....</i>), number cards having numbers from 0 up to 50.</p>				

Primary One Mathematics		Unit 7: Whole Numbers from 0 up to 100		Number of periods: 28	
Key Unit competence: To be able to count, read, write, order, compare, add and subtract <i>whole numbers from 0 up to 99</i>					
Learning objectives			Content	Learning activities	
Knowledge and understanding	Skills	Attitudes and Values			
<ul style="list-style-type: none"> - Discover and understand the concept of numbers from 0 up to 99. - Understand the place value of the digits in numbers not exceeding 99. - Add and subtract numbers not exceeding 99 	<ul style="list-style-type: none"> - Group various objects whose numbers does not exceed 99. - Count, read, write, order, numbers not exceeding 99. - Count various scholastic and household items. - Compare the quantity of various objects showing less and more quantity, order numbers less than or equal to 99 from the smallest to the greatest. - Decompose numbers less than or equal to 99 into ones and tens. - Add and subtract 	<ul style="list-style-type: none"> - Show orderliness in daily activities. - Appreciate the importance of addition and subtraction in daily life 	<ul style="list-style-type: none"> • Counting objects in groups from 1 up to 100. • Reading and writing numbers from 0 up to 100. • Decomposing numbers less than or equal to 99 into ones and tens • Ordering and comparing numbers from 1 up to 99 using comparison symbols ($<$, $>$, $=$) • Addition of numbers whose sum does not exceed 99. • Subtraction of numbers whose first term does not exceed 99 • Word problems involving 	<p>In small groups or individually do the following:</p> <ul style="list-style-type: none"> - Make groups of various objects from 1 up to 100 using counters or drawings - Read and write numbers from 1 up to 99. - Do mental arithmetic involving addition and subtraction from 1 up to 99. <p>Example: Add 10, subtract 10, what is the missing number, ...</p> <ul style="list-style-type: none"> - Use the number lines to count in descending order - Use the number lines to arrange numbers in the given order - Use groups of various objects to compare different quantities by showing which is more or less using signs $<$, $>$, $=$ - Decompose numbers from 1 up to 99 into ones and tens using abacus or the table of place values. - Do exercises on addition of numbers which do not exceed 99. Example: $80 = 50 + 30, \dots$ - Solve word problems involving addition and 	

	<p>numbers whose sum does not exceed 99.</p> <p>- Solve real life problems involving whole numbers less than or equal to 99.</p>		<p>addition and subtraction of numbers less than or equal to 99.</p>	<p>subtraction of numbers less than or equal to 100.</p> <p>- Discuss the importance of addition and subtraction in daily life.</p>
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Links to other subjects: English (*reading and using words containing numbers*), music (*songs about counting*), physical sports (*games about counting in groups*), Elementary Science and Technology (*attributing numbers to groups of objects and counting of various objects*) ,...

Assessment criteria: Learners can read and write the numbers from 1 to 99, order and compare numbers from the greatest to the smallest or vice versa, count groups of various objects, select /pick all numbers less than or equal to 99 from other numbers , add and subtract numbers from 1 to 99.

Teaching/ learning aids: Various counters (bottles, stones,), number cards having number from 1 up to 99.

Topic Area: Numbers and Operations		Sub-Topic Area: Fractions
Primary One Mathematics	Unit 8: Fractions $\frac{1}{2}$ and $\frac{1}{4}$	Number of periods: 8

Key Unit competence: *To be able to Show a half and a fourth/quarter of a whole.*

Learning Objectives			Content	Learning activities
Knowledge and understanding	Skills	Attitudes and Values		
<ul style="list-style-type: none"> - Discover the concept of a fraction - Show a half and a quarter of a whole. - Read and write a half and a quarter. 	<ul style="list-style-type: none"> - Divide a whole into two equal parts. - Divide a whole into four equal parts. - Show the parts of a fraction for a whole. 	<ul style="list-style-type: none"> Develop the culture of sharing with others. 	<ul style="list-style-type: none"> - The concept of a fraction - The parts of a fraction - Reading and writing of $\frac{1}{2}$ and $\frac{1}{4}$. 	<ul style="list-style-type: none"> In small groups or individually: <ul style="list-style-type: none"> - Use a sheet of paper as a whole <ul style="list-style-type: none"> ○ Fold a paper into 2 or 4 equal parts. ○ Showing $\frac{1}{2}$ and $\frac{1}{4}$. ○ Putting together fractions to make a whole - Use drawings to show $\frac{1}{2}$ and $\frac{1}{4}$ using different colours - Practice reading and writing of Fractions and showing the parts of a fraction. - Discuss about fractions and where they are used in daily life.

Links to other subjects: *Languages: in reading and vocabulary, general knowledge.*

Assessment criteria: *Learners may read, write, draw, and show fractions $\frac{1}{2}$ and $\frac{1}{4}$.*

Teaching/ learning aids: Papers, oranges, pens of various colours,...

Topic Area: Algebra				Sub-Topic Area: Number Pattern
Primary One Mathematics		Unit 9: Number patterns		<i>Number of periods: 8</i>
Key Unit competence: <i>To be able to Find the missing number in a number pattern of One -digit numbers or two-digits numbers.</i>				
Learning Objectives			Content	Learning activities
Knowledge and understanding	Skills	Attitudes and Values		
<ul style="list-style-type: none"> -Order numbers following the given instructions -Discover the missing number in the number patterns using addition or subtraction. - Discover the next missing number in the number patterns having a known ratio/interval. - Discover the ratio/interval used between two consecutive numbers in the number patterns 	Make number patterns with a constant ratio / interval.	<ul style="list-style-type: none"> - Develop the capacity of critical thinking - Show orderliness in daily life. 	<ul style="list-style-type: none"> -Using addition or subtraction to introduce the concept of number patterns. - Finding the common difference /ratio used in a number pattern - Number patterns involving addition and subtraction. 	In small groups or individually: <ul style="list-style-type: none"> - Make groups of various counters and arrange them to form a pattern by respecting equal interval or constant ratio/interval. - Arrange various objects following their size, colour, and shape. - Find difference between two successive groups.. - Use drawings in arranging counters in groups. - Use addition and subtraction to demonstrate the number pattern with constant interval, common difference l/ratio. - Analyse the number pattern hence determine the rule used to find the terms of a number sequence. - Do exercises on addition and subtraction. - Use various games to find missing numbers in a given number pattern with addition or subtraction
Links to other subjects: <i>Physical education, Elementary Science and Technology</i>				

Assessment criteria: Learners can find the missing number in a number pattern and the rule used to find it in numbers composed by 1 and 2 digits.

Teaching/ learning aids: Various counters, number cards, cards of various drawings

Topic Area: Measurements and money

Sub-Topic Area: Length Measurements

Primary One Mathematics	Unit 10: Length measurements in meters (Length is less than or equal to 10 m.)	Number of periods: 16
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Key Unit competence: To be able to measure, and compare, length of various objects having the length not exceeding 10 m, add, and subtract length measurements less than or equal to 10m.

Learning Objectives			Content	Learning activities
Knowledge and understanding	Skills	Attitudes and Values		
<ul style="list-style-type: none"> -Discover the concept of length and the concept of meter. -Add and subtract length measurements of various objects having the length not exceeding 10 m 	<ul style="list-style-type: none"> -Compare the length of various objects with equal length or different length but their length should be less than or equal to 10 m - Measure various objects using span of hand, ropes, steps of legs, feet, sticks, and meter ruler but their length should be less than or equal to 10 m -Classify objects according to their length. - Read and write length measurements of various objects in figures. 	<ul style="list-style-type: none"> -Understand the reason why length measurements are used for measuring the length. - Measure the length of various objects accurately. - Accurately measure the length. 	<ul style="list-style-type: none"> - Standard unit of length measurements (Meter) - Tools used for measuring the length in meter (tape measure, folding meter, meter ruler) - Measuring the length of 10 m using a meter. - Reading and writing length measurements in meter. -Comparison, addition and subtraction of length measurements less than or equal to 10 m. -Word problems involving length measurements. 	<p>In small groups or individually:</p> <ul style="list-style-type: none"> - Order and comparing objects of various lengths by determining longest and the shortest. - Use span of hand, ropes, steps of legs, feet and sticks to measure various objects having the length not exceeding 1m - Use a ruler of 1m length to compare the length in meters. - Measure distance between 1m and 10 m and comparing them. - Read and write measured length. - Do exercises and word problems involving comparison, addition and subtraction of length measurements less than or equal to 10 m. - Discuss about the use of length measurements in daily life. - Visit a nearby tailoring house, a building

	-Solve real life problems involving length measurements less than 10m.			company and carpentry workshop where length measurements are used, to observe the importance of length measurement tools.
<p>Links to other subjects: <i>English in reading, physical education and art</i></p>				
<p>Assessment criteria: <i>Learners can measure, compare, read, write, add and subtract length measurements of various objects having the length not exceeding 10 m.</i></p>				
<p>Teaching/ learning aids: <i>A ruler measuring 1 m of length, rope, sticks, tape measure, folding meter...</i></p>				

Topic Area: Measurements and money

Sub-Topic Area: Time Measurements

Primary One Mathematics		Unit 11: Main parts of the day and days of a week		Number of periods: 8	
Key Unit competence: To be able to order and compare the main parts of the day, state the days of the week and give the main daily activities.					
Learning Objectives			Content	Learning activities	
Knowledge and understanding	Skills	Attitudes and Values			
<ul style="list-style-type: none"> - Be aware and differentiating main parts of the day and days of a week - Match activities and parts of the day. 	<ul style="list-style-type: none"> - Order main parts of the day and days of a week. - Show the characteristics each part of the day and ordering the days of a week - Give examples of activities done during different days of a week. - Choose the most important activity from other daily activities. - Outline the agenda of the day and that of a week. 	<ul style="list-style-type: none"> - Appreciate the importance of time and use it properly. - Show the spirit of orderliness in daily life 	<ul style="list-style-type: none"> - Main parts of the day, morning, afternoon, evening and night. - Characteristics of the main parts of the day. - Days of a week and main activities of each day. 	<ul style="list-style-type: none"> - In groups, using charts or stories about different activities of the day learners discover the main parts of the day. - Group work: outline the characteristics of each part of the day then talk about activities that can be done during each outlined part of the day. In groups - talk about about the days of a week. - Use a calendar to show the days of a week - Use a song to ordering correctly days of a week. In groups, make a list of days of a week, discuss about all activities carried out each day then compare those activities with others of the parts of the day. 	
Links to other subjects: English in reading and vocabulary					
Assessment criteria: Learners can match days of a week with their daily activities.					
Teaching/ learning aids: Chart of the main parts of the day, calendar					

Primary One Mathematics		Unit 12: Rwandan currency from 1Frw up to 100 Frw		Number of periods: 16
<i>Key Unit</i> competence: To be able to <i>Differentiate</i> coins of Rwandan currency from 1Frw to 100 Frw and solve problems involving the use of Rwanda currency from 1Frw to 100 Frw.				
Learning objectives			Content	Learning activities
Knowledge and Understanding	Skills	Attitudes and Values		
-Differentiate Rwandan currency from 1frw to 100 Frw -Undersrstand the value of Rwandan currency from 1frw up to 100 Frw.	- Appropriately use Rwandan currency from 1 frw and 100frw when buying goods. -Show the value and the usage of Rwandan currency from 1Frw up to 100Frw. - Give examples of how money can be used in buying needed goods. -Solve real life problems involving Rwandan currency from 1Frw to 100 Frw	-Develop the culture of honesty when using money. - Appreciate the importance of economy and use money effectively.	- Characteristics of Rwandan currency from 1Frw up to 100Frw. - Exchanging, adding and subtracting Rwandan currency from 1Frw to 100Frw. - Value and the importance of money in buying and selling different goods.	In small groups or individually: - Observe Rwandan coins and differentiate them according to their characteristics. (Size, drawings, colours and values from 1Frw up to 100 Frw). - Use drawings and pictures to show the characteristics of Rwandan coins from 1 Frw up to 100Frw. - Use a pencil and pieces of papers to draw Rwandan coins. - Use games when adding and subtracting Rwandan coins during mental arthimetic. - Work out word problems involving, exchanging adding and subtracting Rwandan coins from 1Frw up to 100 Frw). - Give ideas about spending money. Example: If you have 100Frw, what can you buy?
<i>Links to other subjects:</i> English in reading and vocabulary.				
<i>Assessment criteria:</i> Learners can differentiate coins of Rwandan currency from 1Frw to 100Frw and demonstrate how they are used in daily life.				
<i>Teaching/ learning aids:</i> Coins of the Rwandan currency from 1Frw to 100Frw.				

Primary One Mathematics		Unit 13: Directions, location of objects and lines		Number of periods: 16	
Key Unit competence: To be able to Locate objects and define different types of lines.					
Learning objectives			Content	Learning activities	
Knowledge and understanding	Skills	Attitudes and Values			
<ul style="list-style-type: none"> - Know directions and location of objects - Differentiate and draw different types of lines. 	<ul style="list-style-type: none"> -Locate objects - Orient a person using directions. - Identify different types of lines and showing them in the school environment (in/outside the classroom) - Draw straight lines, closed lines. - Put dots on a closed line. 	<ul style="list-style-type: none"> - Be attentive and developing the culture of performing assigned activities perfectly. 	<ul style="list-style-type: none"> -Directions and locating objects. (under, over, right, left, down, up, aside.) - Types of lines (straight lines, closed lines, open lines, curved lines, and zigzag/broken lines) - Dots outside, inside and on a closed line. 	<p>In small groups or individually:</p> <ul style="list-style-type: none"> - Use songs and games to discover directions. - Show the location of tools in the classroom. - Identify the types of lines using objects in the classroom. - Use games to show different types of lines. - In groups, discuss about the importance of lines in daily life. - In groups, discuss about directions and their importance. 	
Links to other subjects: <i>English in reading and vocabulary. Physical sports in different games and art in drawing.</i>					
Assessment criteria: <i>Learners can locate different objects and draw different types of lines.</i>					
Teaching/ learning aids: Different tools (tables, chairs,bottles, ...), a meter ruler .					

Primary One Mathematics		Unit 14: Right angle, square and rectangle		Number of periods: 16	
<p>Key Unit competence: To be able to <i>identify a right angle, a square and a rectangle from other shapes and accurately draw them.</i></p>					
Learning Objectives			Content	Learning activities	
Knowledge and understanding	Skills	Attitudes and Values			
<p>-Identify the characteristics of a right angle</p> <p>- Identify the characteristics of a square.</p> <p>– Identify the characteristics of a rectangle</p>	<p>-Show angles on different scholastic materials.</p> <p>- Draw a right angle</p> <p>- Identify a square and a rectangle from other shapes.</p> <p>- Show rectangular objects or square objects found in the school environment.</p> <p>-Draw a square and a rectangle</p>	<p>Develop the culture of observation and critical thinking before taking a decision.</p>	<p>Right angle:</p> <ul style="list-style-type: none"> • Properties of a right angle. • Drawing a right angle <p>Square and Rectangle:</p> <ul style="list-style-type: none"> • Properties of a square and a rectangle • Drawing a square and a rectangle 	<p>-In groups, identify and draw a right angle Example: Showing a right angle using edges.</p> <p>-In groups, discuss about where right angles are used in daily life. Example: Building a house, table,</p> <p>-In groups, discuss the concept of square and rectangle using different shapes and different objects.</p> <p>-Individually, identify square and rectangle from other shapes</p> <p>-Individually, draw a square and a rectangle in their notebooks grid by joining the given dots.</p> <p>-In pairs, play different games about square and rectangle’s properties. Example: I’m a shape of 4 equal sides and 4 equal right angles. Who am I? In groups, outline tools and materials that have square shape or rectangle shape.</p>	
<p>Links to other subjects: English in reading and spelling words, Elementary Science and Technology, art in drawing and making simple crafts.</p>					
<p>Assessment criteria: Learners can identify right angles, square and rectangle from other shapes, draw them and show where they are used in daily life.</p>					

Teaching/ learning aids: Edges, meter ruler, a grid drawn on a manila paper.

5.2. Mathematics Syllabus for P2

Key competences

1. Counting, reading, writing, ordering and comparing whole numbers from 0 up to 1000, decomposing and using effectively and rapidly rules of counting (+, -, x, :) in numbers with 3 digits.
2. Measuring and comparing length of various objects in m, cm and dm, converting measurements of length from m to cm and working out exercises involving addition and subtraction.
3. Differentiating notes and coins of Rwandan currency from 1Frw to 1000Frw, exchanging money and solving word problems involving addition and subtraction.
4. Describing, explaining information represented by a pictograph and showing the quantity of things on a pictograph.
5. Identifying square and rectangle from other geometric shapes and giving examples of different objects having similar shape as a square or rectangle.
6. Finding the missing numbers in number patterns and explaining how to find the missing number in a number sentence with 3 digit numbers.
7. Reading, writing, drawing and shading $\frac{1}{2}$, $\frac{1}{4}$ and $\frac{1}{8}$ of a whole and working out exercises and related word problems from daily life.
8. Weighing and comparing the weights of various objects whose mass is less than or equal to 10 kg and explaining where kg is used in daily life.
9. Measuring and comparing the capacity of different liquid containers in liters and working out exercises and word problems involving addition and subtraction of the standard unit of capacity measurements.
10. Ordering the days of the week and months of the year, reading and telling the time shown by the clock face or digital watch.
11. Drawing different types of lines, showing different types of the lines on given shapes, drawing different angles and identifying where those angles are found in the daily life.
12. Drawing and giving the features of a rectangle, a square and a triangle and calculating their perimeter.

Topic Area: Numbers and Operations

Sub-Topic Area: Whole numbers

Primary Two Mathematics		Unit 1: Whole Numbers from 0 up to 200		Number of periods: 40	
Key Unit competence: To be able to count, read, write, order, compare, add, subtract, multiply and divide numbers from 0 up to 200					
Learning objectives			Content	Learning activities	
Knowledge and understanding	Skills	Attitudes and Values			
<p>- Show and explain the place value of each digit in numbers composed by 3 digits.</p> <p>- Compare and ordering numbers from 0 up to 200.</p> <p>- Add and subtract numbers from 0 up to 200.</p> <p>- Multiply numbers from 0 up to 10 by 2 and 3</p> <p>- Divide numbers less than or equal to 30 by 2 and 3. (Division without</p>	<p>- Count without mistakes, read and write numbers from 1 up to 200.</p> <p>- Accurately read numbers from 1 up to 200. Example: Number of house, road, signpost,...</p> <p>- Decompose numbers from 1 up to 200 into ones, tens and hundreds</p> <p>- Use comparison symbols (<, > and =) to Compare numbers from 0 to 500</p> <p>- Arrange numbers from 1 up to 200 in ascending and descending order</p> <p>- Add and subtract numbers whose sum and</p>	<p>- Show the culture of orderliness in daily life</p> <p>- Appreciate the importance of addition, subtraction, multiplication and division in daily life.</p> <p>-</p>	<ul style="list-style-type: none"> Counting, reading and writing numbers from 0 up to 200: Counting groups of objects from 1 up to 200 Reading and writing numbers from 0 to 200. Decomposition of numbers into ones, tens and hundreds. Ordering and comparing numbers from 1 up to 200 using comparison symbols: <, > and = Addition and subtraction of numbers from 0 up to 200: Addition of numbers whose sum does not exceed 200 without carrying Addition of numbers whose sum does 	<p>In small groups or individually:</p> <ul style="list-style-type: none"> Start from a group of 100 counters then keep adding other counters, one by one until you get 110. Counting in tens up to 200 Using song when counting in tens and ordering numbers up to 200. Using number lines to train learners how to count in descending order. Reading the number shown on a number card and use the abacus to show it. Ordering numbers using the number line. Writing and decomposing numbers up to 200 using abacus or the table of place values. Using number cards and games make various numbers then read, write and order them Use abacus to compare the given 	

remainder)	<p>first term does not exceed 200.</p> <ul style="list-style-type: none"> - Multiply numbers with 2 digit numbers by 2 and 3.(The product should not exceed 200). - Divide numbers less than or equal to 30 by 2 and 3.(Division without remainder) - Solve real life problems involving whole numbers from 0 to 200. 		<p>not exceed 200 with carrying</p> <ul style="list-style-type: none"> • Subtraction of numbers whose first term does not exceed 200 without borrowing. • Subtraction of numbers whose first term does not exceed 200 with borrowing. • Word problems involving addition and subtraction of numbers less than or equal to 200. <p>Multiplication and division of numbers less than or equal to 200:</p> <ul style="list-style-type: none"> • Multiplication table of 2. (The product should not exceed 20) • Multiplication table of 3. (The product should not exceed 30) • Multiplication of a 2-digit numbers by 2 and 3 without carrying (The product should not exceed 200) • Division by 2 and 3 without a remainder. (The dividend should not exceed 200). • Word problems involving multiplication and division of numbers less than or equal to 200. 	<p>numbers</p> <ul style="list-style-type: none"> - Giving ideas or stories about numbers less than or equal to 200. - Mental arithmetics on addition and subtraction of numbers. Example: Add 10, subtract 10. - Word problems involving addition and subtraction of numbers less than or equal to 200. - Using repetitive addition to identify the multiples of 2 and 3 and working out exercises involving multiplication by 2 and 3. - In groups, learners use counters and multiples of 2 and 3 to work out exercises involving division by 2 or 3. - Discussing about the importance of multiplication and division in daily life. - Solving word problems related to daily life involving multiplication and division by 2 or 3 with a 2 digit numbers.
<p>Links to other subjects: English: Reading and using words containing numbers, Music: Songs about counting, Physical sports: Games about counting in groups, Elementary Science and Technology: Attributing numbers to groups of objects and counting of various objects,...</p>				
<p>Assessment criteria:Learners can write, read , order,add ,subtract, multiply and divid correctly numbers from 1 up to 200</p>				
<p>Teaching/ learning aids: Various counters (bottles, stones,), number cards, from number 1 to200</p>				

Topic Area: Numbers and Operations

Sub-Topic Area: Whole numbers

Primary two Mathematics	Unit 2: Whole Numbers from 0 up to 500	Number of periods: 40
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Key Unit competence: To be able to count, read, write, order, compare, add, multiply and divide numbers from 0 to 500

Learning objectives			Content	Learning activities
<i>Knowledge and Understanding</i>	Skills	Attitudes and Values		
<ul style="list-style-type: none"> - Identify and explain the place value of each digit in numbers composed by 3 digits. - Compare and order numbers less than or equal to 200. - Add and subtract numbers whose sum and first term does not exceed 500. - Multiply numbers from 0 to 10 by 4 and 5. - Divide numbers less than or equal to 50 	<ul style="list-style-type: none"> - Count without mistakes, read and write correctly numbers from 1 to 500. - Reading accurately numbers from 1 to 500. <p>Example: Number of houses, roads, signposts ...)</p> <ul style="list-style-type: none"> - Decompose numbers from 1 to 500 into ones, tens and hundreds. - Use comparison symbols (<, > and =) to compare numbers from 0 to 500. - Arrange numbers from 1 to 500 in ascending and descending order. - Add numbers from 0 to 	<ul style="list-style-type: none"> - Show the culture of orderliness in daily life. - Appreciate the importance of addition, subtraction, multiplication and division in daily life. 	<ul style="list-style-type: none"> - Counting, reading and writing numbers from 1 up to 500 • Counting of groups of objects from 1 to 500 • Reading and writing numbers from 0 to 500. • Decomposition, comparison and ordering numbers from 1 up to 500. • Decomposing numbers less than or equal to 500 into ones, tens, and hundreds. 	<p>In small groups or individually:</p> <ul style="list-style-type: none"> - Using groups of counters, count in hundreds up to 500. - Use songs, count in tens and order numbers from 1 up to 500 - Use number lines to train learners how to count in descending order. - Reading the number shown on a number card and use the abacus to show it. - Ordering numbers using the number line. - Using abacus or the table of place values to write and decompose the numbers less than or equal to 500. - Using number cards and games to make various numbers then read them. write them and order them. - Using abacus to compare numbers less than or equal to 500. - Using stories to compare the numbers not exceeding 500.

<p>by 4 and 5.</p>	<p>500 without and with carrying (The sum should not exceed 500).</p> <ul style="list-style-type: none"> - Subtract numbers whose first term does not exceed 500 without and with borrowing. - Multiply a two digit numbers by 2 and 3 (The product should not exceed 500). - Divide numbers less than or equal to 50 by 4 and 5. (The division without remainder). - Solve real life problems involving whole numbers from 0 to 500 		<ul style="list-style-type: none"> • Using comparison symbols (<, > and =) to compare the numbers less than or equal to 500. • Ordering numbers less than or equal to 500. - Adding and subtracting numbers from 0 up to 500: • Addition without carrying • Addition with carrying • Subtraction without borrowing • Subtraction with borrowing • Word problems involving addition and subtraction of numbers less than or equal to 500. - Multiplication and division 	<ul style="list-style-type: none"> - Using games and the table of place values keep adding 10 and subtract 10 to numbers less than 500. - Solving word problems involving addition and subtraction of numbers less than or equal to 500 related to daily life. - Using repetitive addition to identify the multiples of 4 and 5. and working out exercises involving multiplication of a number by 4 and 5. - In groups, learners use counters or multiples of 4 and 5 to work out the exercises of division by 4 or 5. - Show the importance of multiplication and division in daily life. - Basing on word problems related to daily life, learners work out the exercises involving multiplication and division without a remainder of 2 digit numbers by 4 or 5.
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- Multiplication table of 4 (The product should not exceed 40)
- Multiplication table of 5 (The product should not exceed 50)
- Multiplying a 2 digit numbers by 4 and 5.
- Dividing numbers less than or equal to 500 by 4 and 5.
- Word problems involving multiplication and division of numbers less than or equal to 500 by 4 and 5..

Links to other subjects: **English:** Reading and using words containing numbers, **music:** songs about counting), **physical sports:** games about counting in groups, **Elementary Science and Technology:** attributing numbers to groups objects and counting of various objects,...

Assessment criteria: Learners can write, read, order, add, subtract, multiply and divide correctly numbers from 1 up to 500.

Teaching/ learning aids: Various types of counters (bottles, stones,), number cards, number from 1 up to 500.

Primary Two Mathematics		Unit 3: Whole Numbers from 0 up to 1000		Number of periods: 56	
<p>Key Unit competence: <i>To be able to count, read, write, order, compare, add, subtract, multiply and divide numbers from 0 to 999.</i></p>					
Learning objectives			Content	Learning activities	
Knowledge and understanding	Skills	Attitudes and Values			
<ul style="list-style-type: none"> - Identify and explain the place value of each digit in numbers composed by 3 digits. - Compare and ordering numbers from 0 to 999 - Add and subtract numbers whose sum and first term does not exceed 999. - Multiplying numbers from 0 to 10 by 6. - Divide numbers less than or equal to 60 by 6. - Multiply-numbers from 0 to 100 by 10. 	<ul style="list-style-type: none"> - Count-without mistakes, read and write correctly numbers from 0 to 999. - Accurately read numbers from 0 to 999. Example: Number of houses, roads, signpost. - Arrang numbers from 0 to 999 in ascending and descending order. - Decompose numbers from 1 to 999 into ones, tens and hundreds, - Compare numbers from 0 to 999. - Add and subtract numbers whose sum and first term does not exceed 999. - Multipply2 digit numbers 	<ul style="list-style-type: none"> - Develop the culture of orderliness in daily life. - Appreciate the importance of addition, subtraction, multiplication and division in daily life. 	<ul style="list-style-type: none"> - Counting, reading and writing numbers from 1 up 999: <ul style="list-style-type: none"> • Counting groups of objects less than or equal to 999. • Reading and writing numbers from 0 to 999. - Decomposing, ordering and comparing numbers from 1 up to 999: <ul style="list-style-type: none"> • Decomposing numbers into ones, tens and hundreds. • Ordering and comparing numbers from 1 up to 999 using comparison symbols of (<, > and =) - Adding and subtracting numbers from 1 up to 999: <ul style="list-style-type: none"> • Addition without carrying • Addition with carrying 	<p>In small groups or individually:</p> <ul style="list-style-type: none"> - Using groups of counters to count in hundreds up to 999. - Using songs when counting in tens and ordering numbers up to 999. - Use number lines to train learners how to count in descending order. - Reading numbers shown on a number card and use the abacus to show it. - Ordering numbers using number lines. - Using abacus or the table of place values to read, write and decomposing numbers from 1 up to 999. - Using number cards or games to make various numbers then read them, write them and order them. - Using abacus to compare 	

<p>(Product should not exceed 990)</p> <p>-Multiply numbers from 0 to 10 by 100. (The product should not exceed 990).</p>	<p>by 6. (Product should not exceed 100)</p> <p>-Divide numbers less than or equal to 60 by 6.</p> <p>- Solve real life problems involving whole numbers from 1 up to 999.</p>		<ul style="list-style-type: none"> • Subtraction without borrowing • Subtraction with borrowing • Word problems involving addition and subtraction. <p>- Multiplication and division:</p> <ul style="list-style-type: none"> • Multiplication table of 6 (The product should not exceed 60). • Multiplying a 2 digit numbers by 6 (The Product should not exceed 1000). • Multiplication by 10 and 100 with the product which does not exceed 1000. • Dividing numbers less than or equal to 1000 by 6. (The Dividend should not exceed 1000). • Word problems involving multiplication and division of numbers less than or equal to 1000. 	<p>numbers</p> <ul style="list-style-type: none"> - Using stories to compare numbers not exceeding 999. - Solving word problems involving addition and subtraction of numbers less than or equal to 1000 related to daily life. - Using repetitive addition, to show multiples of 6. - Working out exercise involving multiplication by 6. - In groups, learners use counters or multiples of 6 to work out the exercises of division by 6. - Showing the importance of multiplication and division in daily life.
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Links to other subjects: **English:** Reading and using words containing numbers, **Music:** songs about counting, **Physical Sports:** games about counting in groups, **Elementary Science and Technology:** attributing numbers to groups objects and counting of various various objects.

Assessment criteria: Learners can write, read, decompose, compare, order, add, subtract, multiply and divide correctly numbers from 1 up to 1000.

Teaching/ learning aids: Various types of counters (bottles, stones ...), number cards from number up to 1000.

Primary Two Mathematics		Unit 4: Fractions $\frac{1}{2}, \frac{1}{4}$ and $\frac{1}{8}$.		Number of periods: 8	
Key Unit competence: To be able to Read, write, draw and shade $\frac{1}{2}, \frac{1}{4}$ and $\frac{1}{8}$					
Learning Objectives			Content	Learning activities	
Knowledge and understanding	Skills	Values and attitudes			
<ul style="list-style-type: none"> - Show $\frac{1}{2}, \frac{1}{4}$ and $\frac{1}{8}$ of a real object. - Use drawings to show $\frac{1}{2}, \frac{1}{4}$ and $\frac{1}{8}$ - Identify parts of a fraction. 	<ul style="list-style-type: none"> - Divide a real object into 2 equal parts, 4 equal parts and 8 equal parts; - Read and write $\frac{1}{2}, \frac{1}{4}$ and $\frac{1}{8}$; - Compare $\frac{1}{2}, \frac{1}{4}$ and $\frac{1}{8}$ using comparison symbols (<, > or =) 	<p>Develop the spirit of sharing and working harmoniously with others.</p>	<ul style="list-style-type: none"> - Reading and $\frac{1}{2}, \frac{1}{4}$ and $\frac{1}{8}$ - Drawing and shading fractions: $\frac{1}{2}, \frac{1}{4}$ and $\frac{1}{8}$ - Comparing fractions: $\frac{1}{2}, \frac{1}{4}$ and $\frac{1}{8}$ - Making a whole using drawings of fractions or equal parts of real objects. 	<p>In mall groups or individually:</p> <ul style="list-style-type: none"> - Using a sheet of paper as a whole (or another teaching aids): <ul style="list-style-type: none"> • Fold a paper into 2 equal parts, 4 equal parts, 8 equal parts. • Show $\frac{1}{2}, \frac{1}{4}$ and $\frac{1}{8}$ of that paper by cutting or painting/shading 1 part out of 2 parts, parts 4 and parts 8. - Showing and writing $\frac{1}{2}, \frac{1}{4}$ and $\frac{1}{8}$ on a chart. - Showing the parts of a fraction: the numerator, the denominator and the fraction bar. - Using teaching /learning aids to read, write and compare $\frac{1}{2}, \frac{1}{4}$ and $\frac{1}{8}$. 	

				<ul style="list-style-type: none"> - Using teaching /learning aids to make a whole by combining fractions. - In groups, learners discuss the importance of fractions in daily life.
<p><i>Links to other subjects: Languages: reading and vocabulary, etc.</i></p>				
<p><i>Assessment criteria: Learners can read, write, draw and compare $\frac{1}{2}$, $\frac{1}{4}$ and $\frac{1}{8}$ using real objects /material.</i></p>				
<p><i>Teaching/ learning aids: A paper, oranges, pawpaw, sugar cane...</i></p>				

Topic Area: Measurements and money

Sub-Topic Area: Length measurements

Primary Two Mathematics	Unit 5: Length measurements:m, dm, and cm	Number of periods: 16
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Key Unit competence: To be able to measure, convert, compare, add, and subtract length measurements, multiply and divide length measurements by a whole.

<i>Learning Objectives</i>			Content	Learning activities
Knowledge and understanding	Skills	Attitudes and Values		
<ul style="list-style-type: none"> -Distinguish the concept of length and the concept of m - Add and subtracting length measurements not exceeding 10 m - Identify the length of m, dm and cm. - Understand the order of length measurements and identify the relationship between them. 	<ul style="list-style-type: none"> - Measure the distance or objects in m and cm. - Identify-where m and cm are used in daily life. - Convert length measurements (m, dm and cm) from the greatest to the lowest. - Compare the length in m, dm and cm. - Add-and subtract length measurements. - Multiply length measurements by a whole number. (Product should not exceed 60m). 	<ul style="list-style-type: none"> - Measure the length of an object accurately - Appreciate the importance of using length measurements in daily life. - Develop the culture of honesty in measuring length of various objects. 	<p>Length measurements m, dm and cm:</p> <ul style="list-style-type: none"> - Relationship among length measurements. - Converting length measurements from the greatest to the lowest. - Comparing the length of various objects by measuring or observing them. - Comparing length measurements using comparison symbols (<, > or =) - Word problems involving conversion of length measurements m, dm and cm. - Addition and subtraction of length measurements m, dm and cm 	<p>In small groups or individually:</p> <ul style="list-style-type: none"> - Measuring 1m to the chalkboard or on a manilla paper. - Dividing 1m into 10 equal parts and demonstrating that each part equals to 1 dm. - Dividing 1dm into 10 equal parts and demonstrating that each part equals to 1cm. - Using a stick of 1m divided into 10 dm and 1dm divided into 10 cm to demonstrate that length measurements are 10 times greater than or 10 times less than. - Using a conversion table of length measurements to convert measures from m to cm.

	<ul style="list-style-type: none"> - Divide length measurements by 2,3,4,5 and 6. -Solve real life problems involving length measurements in m, dm, and cm. 		<ul style="list-style-type: none"> - Word problems involving addition and subtraction of length measurements m, dm and cm. - Multiplication and division of length measurements m, dm and cm by a whole number less than or equal to 6. - Word problems involving multiplication and division of length measurements m, dm and cm by a whole number less than or equal to 6. 	<ul style="list-style-type: none"> - Measuring the length of 10m in groups. - Solving word problems involving addition and subtraction of length measurements. - Multiplying and dividing length measurements by a whole number less than or equal to 6. - In groups, talk about the importance of m and cm and identify where they are used in daily life.
<p>Links to other subjects: <i>English: Listening, reading and writing words. Physical sports: measuring the length.</i></p>				
<p>Assessment criteria: <i>Learners can measure a distance or the length of various objects in m and cm, show the relationship among m, dm and cm using a conversion table and solve word problems involving addition, subtraction, multiplication and division of length measurements with a whole number.</i></p>				
<p>Teaching/ learning aids: <i>A meter ruler of 1 m length, rope, sticks, conversion table of length measurements.</i></p>				

Primary Two Mathematics		Unit 6: Standard Capacity measurements in “litres”		Number of periods: 16
<p>Key Unit competence: To be able to measure, compare, add, and subtract capacity measurements, multiply and divide capacity measurements expressed in liters (l) by a whole number.</p>				
Learning Objectives			Content	Learning activities
Knowledge and understanding	Skills	Attitudes and Values		
<ul style="list-style-type: none"> - Understand the concept of liter (l) - Compare the capacity of various containers of liquids. 	<ul style="list-style-type: none"> - Measure the capacity of various containers using a bottle of one liter. - Measure up to 10 liters and comparing the capacity of various containers in liters (l). - Read and writing the capacity of a container measured in liters. - Solving word problems involving addition subtraction, multiplication and division of standard unit (l) of capacity measurements by whole numbers. 	<ul style="list-style-type: none"> - Develop carefulness and accuracy when measuring. - Appreciate the importance of liter as a standard unit in measuring capacity of various containers in daily life. 	<ul style="list-style-type: none"> - Standard unit of capacity measurements liter (l) - Measuring 1l, 2l, up to 10 l of water. - Comparing the capacity of containers in liters (l). - Using comparison symbols <, >, or = to compare various quantities in liters (l). - Word problems involving addition and subtraction of various quantity of liquids in liters (l). - Word problems involving multiplication and division of various quantities of liquids in liters (l). 	<p>In small groups or individually:</p> <ul style="list-style-type: none"> - Using water for measuring the capacity of various containers in liters (l). - Comparing various containers in liters (l) (which one carries more liters, ...) - Solving word problems related to real life involving addition, subtraction, multiplication and division of capacity measurements in liters (l). - Providing mathematical stories related to comparison, addition, subtraction, multiplication and division of capacity measurements in liters (l). - In groups, talk about the importance of using liter (l) in measuring the capacity of liquids and identify where it is used in real life. <p>Example: Buying and selling milk, cooking oil, fuel, etc.</p>
<p>Links to other subjects: English Reading and speaking. Physical sports: Measuring in groups.</p>				

Assessment criteria: Learners can measure capacity of various containers in liters (l) and compare them, solve word problems involving addition, subtraction, multiplication and division of capacity measurements in liters.

Teaching/ learning aids: Various containers (a bottle of 1l, small jerrycans of 1l, 2l, 3l, 5l and 10l, buckets...)

Topic Area: Measurements and money

Sub-Topic Area: Mass measurements

Primary Two Mathematics			Unit 7: Mass measurements “kg”	Number of periods: 16
Key Unit competence: To be able to weigh, compare, add and subtract weights of various objects up to 10kg, multiply and divide mass measurements by a whole number.				
Learning Objectives			Content	Learning activities
Knowledge and understanding	Skills	Attitudes and Values		
<ul style="list-style-type: none"> - Understand the concept of weight of a kilogram (kg) - Read and write kg as unit of weight. - Differentiate various objects according to their 	<ul style="list-style-type: none"> - Measure weight of various objects up to 10 kg. - Compare weight of various objects - Read and write the weight of weighed objects in kg. - Solve word problems involving addition, subtraction, multiplication and division of mass measurements in kg. 	<p>Appreciate the importance of using kg in weighing and develop the spirit of honest when weighing.</p>	<ul style="list-style-type: none"> - Weighing up to 10 kg - Types of balances / weighing machines - Weighing 1kg, 2kg, 3kg, ... - Reading and writing 1kg, 2kg, 3kg, ... - Comparing the weight of various objects up to 10kg: <ul style="list-style-type: none"> • Comparing by lifting, • Comparing by weighing, • Comparing measurements using symbols of comparison 	<p>In small groups or individually:</p> <ul style="list-style-type: none"> - Weighing sugar, salt to understand the concept of a kilogram (kg). - In groups, compare the weight of various objects by lifting them and using weighing machines/balances. - Weighing various objects up to 10kg and record the weight. - Discussing about the importance of using the weight in kg and identify where it is used in daily life. - Providing mathematical stories about mass measurements in “kg” - In groups, talk about addition and subtraction of mass

weight.			<p>($<$, $>$ or $=$)</p> <p>- Word problems involving addition, subtraction, multiplication and division of weight/mass measurements in kg.</p>	<p>measurements “kg” in daily life.</p> <p>- Solving word problems related to daily life involving addition, subtraction, multiplication and division of mass measurements in kg.</p>
<p>Links to other subjects: <i>English in reading and speaking. Elementary Science and Technology.</i></p>				
<p>Assessment criteria: <i>Learners can weigh, compare, add, subtract, multiply and divide mass measurements up to 10 kg.</i></p>				
<p>Teaching/ learning aids: <i>Various weighing machines/balances, stone weights, various objects for weighing</i></p>				

Primary Two Mathematics		Unit 8: <i>Rwandan currency from 1Frw up to 1000 Frw</i>		Number of periods: 16
<i>Key Unit competence: To be able to count and exchange Rwandan currency up to 1000Frw.</i>				
Learning objectives			Content	Learning activities
Knowledge and understanding	Skills	Attitudes and Values		
<ul style="list-style-type: none"> - Identify and list the value Rwandan currency from 1Frw to 1000Frw. - Distinguish the value of Rwandan currency from 1Frw up to 1000Frw. 	<ul style="list-style-type: none"> -Count Rwandan currency from 1Frw up to 1000Frw correctly -Use appropriately Rwandan currency from 1 frw up to 1000frw in buying and selling of goods as well as in exchange. -Plan how to use money less than or equal to 1000Frw and show what he/she can do in order to save money. -Solve real-life problems involving the use Rwandan currency up to 1000Frw. 	<ul style="list-style-type: none"> -Develop the culture of spending money wisely according to every one’s income. - Develop the culture of honesty in using money. - Develop the culture of saving and open small business that generate income. 	<ul style="list-style-type: none"> - Characteristics of Rwandan currency from 1Frw to 1000Frw. -Use of money and how to spend it. - Word problems involving exchange of Rwandan currency from 1Frw up to 1000Frw - Word problems involving addition and subtraction of Rwandan currency from 1Frw up to 1000Frw -Word problems involving multiplication and division of Rwandan currency from 1Frw up to 1000Frw. 	<p>In small groups or individually:</p> <ul style="list-style-type: none"> - Observing different types of Rwandan currency and differentiate them according to their characteristics (Sizes, drawings, colours and values). - Comparing Rwandan currency by the value of goods or services you can get from it. Example: If you had 100Frw, what would you buy? - In groups, learners use drawings and pictures to describe Rwandan currency from 1 Frw up to 1000Frw - Learners list down goods (From the most important to the least important) they can buy using less than or equal to 1000Frw. - Role-play the use of money in buying and selling activities. - Discussing about small businesses that generate income (the teacher uses questions-answers).

Links to other subjects: *English in reading and vocabulary.*

Assessment criteria: *Learners can count, compare, exchange, add, subtract, multiply, and divide Rwandan currency from 1Frw up to 1000Frw.*

Teaching/ learning aids: *Rwandan currency from 1Frw to 1000Frw, Drawings and pictures of Rwandan currency.*

Primary Two Mathematics		Unit 9: Time measurements.		Number of periods: 24	
<p>Key Unit competence: To be able to Read, write and draw the time shown by clock faces or watches showing hour o'clock and half past an hour, and use a calendar to identify months of the year and days of each month.</p>					
Learning objectives			Content	Learning activities	
Knowledge and understanding	Skills	Attitudes and Values			
<ul style="list-style-type: none"> - Order hours of the day - Identify and use days of the week, days of each month, and names of each month of the year. 	<ul style="list-style-type: none"> - Read and use time shown by a clockface with long and short needles. - Differentiate months of the year according to the number of the days of each month. - Read-and use a calendar. - Plan-and order daily and weekly activities starting from the most important. 	<ul style="list-style-type: none"> - Value time and managing it effectively - Develop odeliness in daily life and respect of time. 	<p>Reading, telling and writing time shown by a clock face using o'clock and half past.</p> <ul style="list-style-type: none"> - Clock face with long and short needles (hands); - Clockface with numbers. <p>-Hours of the day, -Weeks of the month and the year; -Months of the year; -Days of each month; -Days of the year. -Planning daily and weekly activities and time management.</p>	<p>In small groups or individually:</p> <ul style="list-style-type: none"> - Observing a clockface and showing the needle of hours (short and big), the needle of minutes (long) and the needle of seconds (very long and small). - Practicing reading and writing the time shown with clockfaces showing o'clock and half past. - Using a clockface of numbers only to read and write the time showing o'clock and half past. - Drawing clockfaces according to the time given or matching drawings with the given time. - In groups, identify all activities carried out at school during the given time. - Using a calendar read the dates and show the weeks of the month, months of the year and days of each month. - Planning daily and weekly activities, 	

				ordering them from the most important and discussing about the importance of respecting time.(The teacher guide the discussion using questions related to the topic).
Links to other subjects: <i>English in reading and vocabulary.</i>				
Assessment criteria: <i>Learners can read, write and draw clockfaces using o'clock and half past, use a calender to identify months of the year and days of each month.</i>				
Teaching/ learning aids: <i>Clockfaces with needles, clockfaces with numbers, drawings of clockfaces showing o'clock or half past and calendars.</i>				

Primary Two Mathematics		Unit 10: Types of lines and angles		Number of periods: 8
<i>Key Unit competence: To be able to Identify and draw different types of lines, acute, right and obtuse angles.</i>				
Learning Objectives			Content	Learning activities
Knowledge and understanding	Skills	Attitudes and Values		
<ul style="list-style-type: none"> - Differentiate and draw straight lines, closed lines, open lines, curved lines, and zigzag/brocken lines. -Name and identify the characteristics/ properties of acute and obtuse angles using the right angle. -Differentiate right, acute and obtuse angles according to their size. 	<ul style="list-style-type: none"> - Show straight lines, closed lines, open lines, curved lines, and zigzag/brocken lines that form various objects/materials located in and outside the classroom. - Draw straight lines, closed lines, open lines, curved lines and zigzag/brocken lines - Identify a right angle, an acute angle and an obtuse angle that form various objects/materials located in and outside the classroom. - Draw right angle, acute angle and obtuse angle. 	<ul style="list-style-type: none"> - Develop culture of observation before in what ever they are doing 	<ul style="list-style-type: none"> -Types of lines: - Straight lines: <ul style="list-style-type: none"> • Horizontal lines • Vertical lines • Oblique lines, - Closed lines, -Open lines, -Curved lines - Zigzag/broken lines -Characteristics of each type of angles. -Drawing different types of lines Types of angles: <ul style="list-style-type: none"> -Right angle -Acute angle -Obtuse angles - Characteristics of each type of angle -Drawing right, acute and obtuse angle using a ruler and a grid. -Comparing right, acute, and obtuse angle. 	<ul style="list-style-type: none"> In small groups or individually: <ul style="list-style-type: none"> - Discovering the types of lines using objects/materials found in classroom and outside the classroom. - Using a ruler to draw straight lines in their notebooks. - Showing different types of lines then name them using a game called: “Which line”, - Discussing the importance of lines in daily life and where they are used. (The teacher guides discussion using questions related to the topic). - Identifying right, acute and obtuse angles from different types of angles or from objects/materials located in and outside the classroom or drawings of various objects/materials such as chair, table, car, house, door, etc. - Using a grid, learners join dots with a ruler to draw the types of angles.

Links to other subjects: English: Reading and speaking, Art and physical sports.

Assessment criteria: Learners can name and draw different types of lines and angles, give examples of objects/materials formed by different types of lines or right, acute and obtuse angles.

Teaching/ learning aids: Edges, meter ruler, protractor, grids.

Primary Two Mathematics		Unit 11: Grid		Number of periods: 8	
Key Unit competence: <i>To be able to construct a grid and locate points on a grid</i>					
Learning Objectives			Content	Learning activities	
Knowledge and understanding	Skills	Attitudes and Values			
<ul style="list-style-type: none"> - Understand a grid and its components. - Differentiate components of a grid. (Margins, columns, posts, crossing bars,,flowlines,...) 	<ul style="list-style-type: none"> - Draw a grid - Build a grid, locating an object on a grid and putting a dot on a grid. 	<ul style="list-style-type: none"> - Develop the spirit of observation and carefulness. - Develop the culture of orderliness in daily life. 	Grid and its components: <ul style="list-style-type: none"> - Posts and crossing bars - Constructing a grid - How to put dots on a grid? - How to locate dots on a grid? 	In small groups or individually: <ul style="list-style-type: none"> - Constructing a grid using straight vertical and straight horizontal lines: Posts and crossing bars and naming posts and crossing bars - Put dots on a grid and locate them. - Discussing about a grid and where it can be used in daily life (in crafts, in making roofs of houses, ...) 	
Links to other subjects: <i>Drawing and geography</i>					
Assessment criteria: <i>Learners can draw a grid, put and locate the dots drawn on a grid.</i>					
Teaching/ learning aid: <i>Edges, meter ruler, manila paper,pencils.</i>					

Topic Area: Shapes

Sub-Topic Area: Shapes

Primary Two Mathematics	Unit 12: Square, rectangle and triangle	Number of periods: 16
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Key Unit competence: *To be able to identify a square, a rectangle and a triangle from other geometrical shapes, accurately draw a square, a rectangle and a triangle and calculate their perimeter.*

Learning Objectives			Content	Learning activities
Knowledge and understanding	Skills	Attitudes and Values		
<ul style="list-style-type: none"> -List the characteristics/properties of a square, a rectangle and a triangle. - Identify the perimeter of each of shape. 	<ul style="list-style-type: none"> -Distinguish a square, a rectangle and a triangle from other geometrical shapes. -Give example of materials/objects that have similar shape to a square, rectangle and triangle in and outside classroom. -Draw square, rectangle and triangle - Measure-and calculate the perimeter of a square, a rectangle and a triangle. 	<ul style="list-style-type: none"> - Develop the spirit of carefulness and matching similar objects/materials in daily life. - Live-harmoniously with others - Respect each other all the times. 	<ul style="list-style-type: none"> - Properties/characteristics of a square, a rectangle and a triangle. -Drawing a square, a rectangle and a triangle. -Measuring and calculating the perimeter of a square, a rectangle and a triangle. 	<ul style="list-style-type: none"> - In groups, discuss about geometrical shapes presented. - Using drawings of various geometrical shapes, learners use the properties/ characteristics of a square, a rectangle and a triangle to identify them from other geometrical shapes. - Using a ruler and grid to draw a square, a rectangle and a triangle. - Playing various games related to each studied geometrical shape. Example: hot square ... - In groups, discuss about the objects or materials that have similar shape to that of a square, a rectangle and a triangle. -Showing the perimeter of a square, a rectangle and a triangle and finding it using word problems of daily life.

Links to other subjects: *Art and physical sports*

Assessment criteria: *Learners can draw, give characteristics/properties of a square, a rectangle and a triangle and identify them from other geometrical shapes, measure and calculate the perimeter of a square, a rectangle and a triangle using words problems of daily life.*

Teaching/ learning aids: Various shapes, materials in shapes of square, rectangle, triangle, ruler, grid.

Topic Area: Algebra

Sub-Topic Area: Equation

Primary Two Mathematics	Unit 13: Missing numbers in mathematic expressions involving addition, subtraction multiplication and Division.	Number of periods: 16
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Key Unit competence: *To be able to find the missing number in addition, subtraction, multiplication and division. of numbers*

Learning Objectives			Content	Learning activities
Knowledge and understanding	Skills	Attitudes Values and		
-Understanding the concept of equation. -Understanding the rule used when finding the missing numbers in addition, subtraction, multiplication and division.	- Calculate and find the missing number in addition, subtraction, multiplication and division of numbers	-Reason quickly and effectively. - Develop the culture of orderliness.	Finding the missing number - The concept of equality and the equal sign (=) - Rules of finding the missing number in arithmetic operation of numbers in relation to 4 fundamental operations (+, -, x, ÷) - Exercises for finding the missing number in addition, subtraction, multiplication and division of numbers. - Finding a missing number in number pattern.	In small groups or individually: -Making groups of counters and finding out the number of missing counters to match with a given number -Using different games to practise rules of counting when finding the missing number in arithmetic operation. -Using drawings for finding the missing number in arithmetic operation of addition, subtraction, multiplication or division. -Finding the missing numbers in arithmetic operation of number through mental arithmetic, exercises of simple numbers and by writing the number that require deeper thinking. (Example: 5 • + 36 = 89) . -In groups, discussing the rule used when finding the missing numbers in arithmetic operation of number.

Links to other subjects: *ICT: Working out numbers with a computer, Elementary science and technology.*

Assessment criteria: *Learners can find the missing number in addition, subtraction, multiplication and division.*

Teaching/ learning aids: *Various counters, manila papers or various number cards showing various examples of exercises.*

Primary Two Mathematics		Unit 14: Pictographs /Simple graphs		Number of lessons: 8	
Key Unit competence: <i>To be able to describe the information provided by a given pictograph/simple graphs.</i>					
Learning Objectives			Content	Learning activities	
Knowledge and understanding	Skills	Attitudes and Values			
Understand how to make a pictograph used in mathematics when showing the size of objects.	<ul style="list-style-type: none"> - Find the number of objects represented on given pictograph. - Describe and explain all information provided by a pictograph. 	<ul style="list-style-type: none"> -Develop quick critical thinking. - Develop the capacity of describing and interpreting a pictograph by finding the number of different objects shown on it. 	Pictograph showing the number of objects: <ul style="list-style-type: none"> ▪ Making groups of objects and showing them on a pictograph. ▪ Describing and interpreting various pictographs showing the number of objects less than or equal to 10 per one column. ▪ Making a pictograph similar to the given model. 	In small groups or individually: <ul style="list-style-type: none"> • Using real materials or drawings to describe and interpret a given pictograph. • After observing a pictograph, learners describe and interpret all information provided by a pictograph.  <p>Example: Draw a pictograph having 4 small cars, 1 big car, 5 bicycles and 10 people.</p> <ul style="list-style-type: none"> • Learners can draw a pictograph related 	

				<p>to daily life similar to the example shown above</p> <p>Example: Making different groups of 3, 5 or 10 books then learners can show it using a pictograph in different ways.</p>
<p>Links to other subjects: Art: drawing and making different materials, statistics...</p>				
<p>Assessment criteria: <i>Learners can describe interpret, explain, draw and represent different information on a pictograph.</i></p>				
<p>Teaching/ learning aids: Various materials such as books, notbooks, various drawings...</p>				

5.3. Mathematics Syllabus for P3

Key competences

1. Counting, reading, writing, ordering and comparing whole numbers from 0 to 10000, and using effectively and rapidly rules of counting (+, -, x, :) in numbers with 4 digits.
2. Differentiating even and odd numbers
3. Differentiating Rwandan Francs from 1Frw to 5000 Frw, exchanging money and solving word problems involving addition and subtraction
4. Finding the missing number in arithmetic operations (addition, subtraction) and explaining how to find those numbers in case of numbers with 4 digits.
5. Using correctly the calendar and reading the time shown by a watch
6. Reading, writing, and drawing correctly fractions not exceeding a whole of which the denominator less than or equal to 10, working out exercises and word problems related to their daily life.
7. Measuring and comparing length using meter, showing the relationship, converting measurements of length and working out exercises and word problems involving length measurements.
8. Weighing and comparing the weight of various things in Kg, working out exercises and word problems involving mass measurements.
9. Measuring and comparing the quantity of various liquids in l, dl, and ml, writing and reading capacity measurements (l, dl, and cl) and identifying where they are used in the daily life.
10. Differentiating types of angles and lines on drawings and giving examples of where they are used in daily life.
11. Drawing and giving the properties of a rectangle, a square, a triangle, a circle and differentiating the types of triangles.

Topic Area: Numbers and Operations

Sub-Topic Area: Whole numbers from 0 up to 10000

Primary Three Mathematics			UNIT 1: Whole Numbers from 0 up to 2000	Number of periods: 40
Key unit competence: To be able to count, read, write, order, compare, add, subtract, multiply and divide numbers from 0 to 2000				
Learning objectives			Contents	Learning activities
Knowledge and understanding	Skills	Attitudes and Values		
-Understand and identify the place value of numbers composed by four digits - Compare numbers less than or equal to 2000. - Understand addition of numbers whose sum does not exceed 2000 with or without carrying - Understand subtraction with or without borrowing whose first term does not exceed 2000.	-Count, read and write numbers less than or equal to 2000. -Decompose numbers less than or equal to 2000 into ones, tens, hundreds and thousands. - Compare and order numbers less than or equal in ascending and descending order. - Add numbers with and without carrying whose sum does not exceed 2000.	-Develop the spirit of orderliness in daily activities. - Develop the capacity of critical thinking - Demonstrate self confidence and hardworking.	-Reading and writing numbers less than or equal to 2000 (in words and figures) - Writing numbers less than or equal to 2000 in expanded– form. -Decomposing numbers into ones, tens, hundreds and thousands -Arranging numbers less than or equal to 2000 in ascending or descending order. -Comparing numbers less than or equal to 2000 using comparison symbols (<,> and =). - Addition of numbers whose sum does not exceed 2 000 and subtraction of numbers less than or equal to 2000. <ul style="list-style-type: none"> • Addition without carrying • Addition with carrying • Subtraction without borrowing • Subtraction with borrowing 	Using number cards of different numbers 1,2,3,4,5,6,7,8,9and 0 learners in group of four make different numbers with four digits and communicate to others all possible numbers they can make without exceeding 2000 Using number line in counting and ordering numbers up 2000 Practice exercises on identifying numbers from 0 to 2000 into ones, tens, hundreds and thousands by using counters and counting tables Add without carrying or with carrying vertically by using counters and counting tables Subtraction without borrowing or with borrowing of number with four digits vertically by using counting table or counters Help learners to counters rapidly and

<p>- Multiply numbers from 0 to 10 by 7, 8 and 9</p> <p>- Understand the multiplication numbers composed by three digits with another number composed by two digits. Their product should not exceed 2000</p> <p>- Understand the division of a number composed by four digits by a number less than or equal to 9. The dividend should not exceed 2000.</p>	<p>-Subtract numbers with and without borrowing. The first term should not exceed 2000.</p> <p>- Multiply numbers composed by 3 digits with a number composed by 2 digits. Their product should not exceed 2000.</p> <p>- Divide 4-digit numbers by a number less than or equal to 9. The dividend should not exceed 2000.</p> <p>- Solve real life problems involving addition, subtraction, multiplication, and Division of whole numbers</p>		<ul style="list-style-type: none"> • Word problems related to real life involving addition and subtraction <p>-Multiplication of numbers whose product does not exceed 2000 and division of numbers less than or equal to 2000.</p> <ul style="list-style-type: none"> • Multiplication of 7 by a number less than or equal to 10. • Multiplication of 8 by a number less than or equal to 10. • Multiplication of 9 by a number less than or equal to 10. • Multiplication of number composed by three digits by a number composed by two digits. The product should not exceed 2000. • Multiplication of a number less than or equal to 20 by 100 and multiplication of a number less than or equal to 2 by 1000. The product does not exceed 2000. • Division of a number composed by four digits by a number less than or equal to 9, the dividend should not exceed 2000. 	<p>mentally by adding, subtracting, multiplying and dividing</p> <p>Example: add 1000, subtract 1000, multiply by 10, 100; divide by 2...</p> <p>Sharing ideas on story of numbers related to addition, subtraction, multiplication and division</p> <p>Using synthetic division of numbers with four digits by a number with one digit</p> <p>Add, subtract, multiply and divide by using counting exercises and finding the missing number in order to get the given answer (example: $1.5 + 12 = 167...$)</p> <p>Practice word problems of addition, subtraction, multiplication and division of real life</p> <p>Sharing ideas in groups on the use of addition, subtraction, multiplication and division in real life.</p>
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	between 0 and 2000.		<ul style="list-style-type: none"> • Word problems involving multiplication and division of numbers less than or equal to 2000. 	
Links to other subjects:English: reading, speaking and writing ; counting different objects and general knowledge on countable objects.				
Assessment criteria: Learners should be able to count, read, write, expand, decompose, order, compare, add, subtract, multiply and divide whole numbers less than or equal to 2000.				
Teaching/learning aids: Different counters, number card, counters and figures of counters				

Topic Area: Numbers and Operations				Sub-Topic Area: Whole Numbers from 0 to 10000
Primary Three Mathematics			Unit 2: Whole Numbers from 0 to 5000	Number of periods: 40
Key Unit Competence: To be able to count, read, write, expand, decompose, order, compare, add, subtract, multiply, divide whole numbers less than or equal to 5000				
Learning Objectives			Contents	Learners activities
Knowledge and understanding	Skills	Attitudes and Values		
<ul style="list-style-type: none"> - Use the table of place values to determine the place value of numbers composed by four digits. - Compare numbers less than or equal to 5000. - Understand addition of numbers with or without carrying whose sum does not exceed 5000 - Understanding subtraction with or without borrowing whose first term does not exceed 5000. - Understand the 	<ul style="list-style-type: none"> -Count, read, and write numbers less than or equal to 5000 - Decompose numbers less than or equal to 5000 into ones, tens, hundreds and thousands - Order and compare numbers less than or equal to 5000 from the lowest to the greatest and vice versa. - Add numbers with and without carrying and the sum does not exceed 5000. -Subtract numbers less than or equal to 5000 with and without 	<ul style="list-style-type: none"> -Develop the spirit of orderliness in daily activities. - Develop the capacity of critical thinking - Demonstrate selfconfidence and hardworking. 	<ul style="list-style-type: none"> - Reading and writing numbers less than or equal to 5000(in words and in figures). Analyze, order and add numbers which do not exceed 5000: <ul style="list-style-type: none"> - Decomposing numbers less than or euqla to 5000 into ones, tens, hundreds and thousands - Ordering numbers from 2000 up to 5000 from the greatest to the lowest and vice versa - Using the symbols of comparison (<,>, =) to compare 2 numbers less than or equal to 5000. - Addition and subtraction of numbers less than or equal to 5000 <ul style="list-style-type: none"> • Addition with carrying • Addition without carrying • Subtraction with borrowing • Subtraction without carrying • Word problems involving addition and subtraction Multiplication and division of 	<ul style="list-style-type: none"> • Using ca number line when ordering and counting numbers less than or equal to 5000.Start from 1000 then focus on numbers ended by two zero (1000, 1500...). • Using number cards showing the following numbers: 1,2,3,4,5,6,7,8,9 and 0. Group learners in four groups, instruct them to form numbers made by four digits using the given numbers and let them present their findings. Each digit should be used once. • Using abacus counters or the table of place values decompose number less than or equal to 5000 into ones, tens, hundreds and thousandth • Addition with or without carrying in the vertical position using the table of place values and abacus counters. • Substraction with or without borrowing number with four digits in vertical way using multiplication table or counter

<p>multiplication of numbers composed by three digits with an other number composed by two digits. Their product should not exceed 5000</p> <p>-</p> <p>Understand the division of a number composed by four digits by a numbers less than or equal to 9. The dividend should not exceed 5000.</p>	<p>borrowing. The first term should not exceed 5000.</p> <p>- Multiply 3- digits numbers with a 2-digits number. Their product should not exceed 5000.</p> <p>- Divide 4- digits numbers by number less than or equal to 9. The dividend should not exceed 5000.</p> <p>- Solve real life problems involving addition, subtraction, multiplication, and Division of whole numbers between 0 and 5000.</p>		<p>numbers less than or equal to 5000:</p> <ul style="list-style-type: none"> • Multiplication of a number composed by three digits by a number composed by two digits. The product should not exceed 5000. • Multiplication of a number less than or equal to 50 by 100 and multiplication of a number less than or equal to 5 by 1000. The product not exceed 5000 • Division of a number composed by four digits by a number less than or equal to 9. The dividend should not exceed 5000. • Word problems involving multiplication and division of numbers less than or equal to 5000 • Word problems relating to the daily life involving multiplication and division 	<ul style="list-style-type: none"> • Using add 1000 subtract 2000, multiply with 10 or 100, divide by 2...) to help the learners to be familiar with mental arithmetics or quick calculation in addition, subtraction, multiplication and division • Using mathematical stories in relation with addition subtraction, multiplication and division • Using multiplication tables to workout exercises involving addition, subtraction and multiplication by finding the missing number when given the answer. Example: $21.5 + 13 = 2167...$ • Work out problems relation to daily life involving addition, multiplication and division • In groups, discuss about the importance of studying addition, subtraction, multiplication and division in daily life.
<p>Links to other subjects: English: reading, speaking and writing, counting different objects and general knowledge on countable objects.</p>				
<p>Assessment criteria: learners can count, read, write, expand, decompose, order, compare, add, subtract, multiply and divide well whole numbers less than or equal to 5000.</p>				
<p>Teaching/learning aids: Different counters, number cards, table of place values, abacus counters,...</p>				

Topic Area: Numbers and Operations		Sub-Topic Area: Whole Numbers from 0 to 10000		
Primary Three Mathematics	UNIT 3: Whole Numbers from 0 to 10000	Number of periods: 40		
Key unit competence: To be able to count, read, write, order, decompose, expand, compare, add, subtract, and divide whole numbers up to 10000				
Learning objectives				
Knowledge and understanding	Skills	Attitudes and Values	Contents	Learners activities
<p>-Understand well the place value of each digit in a four digit numbers</p> <p>- Compare numbers less than or equal to 10000</p> <p>-Understand addition with or without carrying. of numbers whose sum does not exceed 10000.</p> <p>-Understand subtract with or without borrowing</p>	<p>- Count, read, and write correctly the numbers less than or equal to 10000.</p> <p>- Decompose a 4-digit number into ones, tens, hundreds and thousands.</p> <p>- Order and comparing the numbers Less than or equal to 10000 from the lowest to the greatest and vice versa.</p> <p>- Add</p>	<p>-Develop the spirit of orderliness in daily activities.</p> <p>- Develop the capacity of critical thinking</p>	<p>- Counting, reading and writing numbers from 0 up to 10000 (in words and figures)</p> <p>- Decomposing a 4-digit number into ones, tens, hundreds and thousands.</p> <p>- Ordering numbers from 5000 up to 9999 from the greatest to the lowest and vice versa.</p> <p>- Comparing numbers from 5000 up to 9999 using comparison symbols (<, > and =).</p> <p>- Addition and subtraction of numbers less than or equal to 10000:</p> <ul style="list-style-type: none"> • Addition with carrying • Addition without carrying 	<ul style="list-style-type: none"> • Using a number line to count and order numbers from 5000 up to 10000 focusing on numbers ended by two zeroes (5000, 5500....) • Using number cards showing the following numbers: 1,2,3,4,5,6,7,8,9 and 0. Group learners in four groups, instruct them to form numbers made by four digits from 5000 up to 10000 using the given numbers and let them present their findings. Each digit should be used once. • Using counters or the table of place values work out exercises involving decomposition of numbers from 0 up to 9999 into ones, tens, hundreds and thousands. • Add with or without carrying in the vertical position using the table of place values and counters. • Subtract with or without borrowing number

<p>numbers whose first term does not exceed 10000.</p> <p>-Understanding multiplication of number a 3-digit number by a 2-digit number. The product should not exceed 10000</p> <p>-</p> <p>Understand division of a 4-digit number by a number less than or equal to 9. The dividend should not exceed 10000</p>	<p>with or without carrying the numbers whose sum is less than or equal to 10000.</p> <p>- Subtract with or without borrowing the numbers less than or equal to 10000. The first term should not exceed 10000.</p> <p>- Multiply a 3 digit number with a 2-digit number. Their product should not exceed 10000.</p> <p>- Dividing a 4-digit number with a number less than or equal to 9. The dividend should not exceed 10000</p> <p>- Solve real life problems involving addition, subtraction, multiplication, and</p>		<ul style="list-style-type: none"> • Subtraction with borrowing • Subtraction without carrying • Word problems related to real life involving addition and subtraction. <p style="text-align: center;">Multiplication and division of numbers less than or equal to 10000:</p> <ul style="list-style-type: none"> • Multiplication of a 3-digit number with a 2-digit number. The product should not exceed 10000 • Multiplication of numbers less than or equal 100 with 100 and • Multiplication of numbers less than or equal to 10 with 1000. • Division of a 4-digit number with a number less than or equal to 9. The dividend should not exceed 10000 • Word problem related to daily life involving multiplication and division. 	<p>in the vertical position using the table of place values and counters.</p> <ul style="list-style-type: none"> • Using add 1000 subtract 2000, multiply with 10, 100 or 1000, divide by 2...) to help the learners to be familiar with mental arithmetics or quick calculation in addition, subtraction, multiplication and division • Using mathematical stories in relation with addition subtraction, multiplication and division • Using multiplication tables to workout exercises involving addition, subtraction and multiplication by finding the missing number when given the answer. Example: $4.15 \div 31.3 = 7158; 4.15 \times 3143 = 71.8$) • Work out problem involving addition, subtraction multiplication and division in relation with daily life. • In groups, discuss about the importance of studying addition, subtraction, multiplication and division in daily life.
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	Division of whole numbers between 0 and 10000.			
Links to other subjects: English: reading, speaking and writing, counting different objects and general knowledge on countable objects.				
Assessment criteria: Learners can count,read,write,decompose,expand, order,compare,subtract,add,multiply and divide correctly the whole numbers less than or equal to 10000				
Teaching/lerning aids: Different counters, numbercards , table of place values, abacus counters,...				

Topic Area: Numbers and Operations			Sub-Topic Area: Fractions	
Primary Three Mathematics		Unit4: Fractions having a numerator less than or equal to 10.		Number of periods: 16
<p>Key Unit competence: To be able to read, write, draw, add and subtract fractions with the same denominator less than or equal to 10 and multiplying fractions with a whole number.</p>				
Learning Objectives			Contents	Learners activities
Knowledge and understanding	Skills	Attitudes and values		
<ul style="list-style-type: none"> -Understand how two or more fractions can give a whole number. -Use drawings or real objects to compare fractions with the same denominator less than or equal to 10. -Understand how to find a fraction of whole number 	<ul style="list-style-type: none"> -Divide a whole object into equal parts. -Show the parts of a fraction. -Read and Write fractions not exceeding a whole. The denominators should not exceed 10 -Compare, addition and subtraction of fractions with the same denominators. The sum should not exceed a whole and the denominators should not exceed 10. -Work out mathematical 	<ul style="list-style-type: none"> -Share equitably the various objects with others -Develop the culture of sharing with others 	<ul style="list-style-type: none"> - Reading and writing fractions not exceeding a whole. The denominators should not exceed 10 : $\frac{1}{2}, \frac{1}{3}, \frac{1}{4}, \frac{1}{5}, \frac{1}{6}, \frac{1}{7}, \frac{1}{8}, \frac{1}{9}, \frac{1}{10}$ - Drawing and shading /coloring various fractions not exceeding a whole: $\frac{1}{3}, \frac{2}{3}, \frac{1}{4}, \frac{3}{4}, \frac{1}{5}, \frac{2}{5}, \frac{1}{6}, \frac{1}{7}, \frac{1}{8}, \frac{1}{9}, \frac{1}{10}, \dots$ - Comparing fractions having the same denominator not exceeding a whole and the denominators should not exceed 10. $-\frac{1}{3}, \frac{2}{3}$ $-\frac{1}{4}, \frac{2}{4}, \frac{3}{4}$ 	<ul style="list-style-type: none"> -Using drawings or anyother objects divisible equally into 10 pieces to show different fractions. -Using drawings to show, read and write different fractions basing selected parts of a wholeor colored parts -Using teaching/lerning aids to read and write different fraction basing on selected equal parts of a whole. -Using drawings to find the complement of a unit fraction. -Work out word problems related to daily life involving addition, subtraction

	<p>problems involving fractions of a whole number.</p> <p>-Solve real life problems involving a fraction of a whole.</p>		<p>– $\frac{1}{5}; \frac{2}{5}; \frac{3}{5}; \frac{4}{5}$</p> <ul style="list-style-type: none"> - Find the complement of a unit fraction - Addition and subtraction of fractions not exceeding a whole and the denominators should not exceed 10. - Fraction of a number for real objects. - Fraction of a whole number and word problems involving fractions with the same denominator not exceeding 10. 	<p>of fractions not exceeding a whole. The denominators should not exceed 10.</p> <ul style="list-style-type: none"> -Work out word problems related to daily life involving the calculation of a fraction of a whole number by multiplying it with the numerator and dividing with the denominator. -Discussing about the importance of sharing in daily life. (Lead the conversion starting using different questions that show where fraction are used: equal division of shares and unequal division of shares).
<p>Links to other subjects: English: Reading and vocabulary</p>				
<p>Assessment criteria: learners work out exercises in relation with reading, writing and drawing fraction not exceeding a whole and denominators do not exceed 10, Solve word problems involving addition and subtraction of fractions not exceeding a whole and denominators do not exceed 10 and multiply fractions by a whole number / Fraction of a whole number.</p>				
<p>Teaching/lerning aids: different objects about divison into fractions (papers,cards)and a scisors</p>				

Topic area: Measurements and money			Sub-Topic Area: Length measurements	
Primary Three Mathematics			UNIT 5: Length Measurements.	Number of periods: 16
Key Unit competence: To be able to measure, convert, compare, add, and subtract length measurements and multiply/divide length measurements by a whole.				
Learning objectives			Content	Learning activities
Knowledge and understanding	Skills	Attitudes and Values	<ul style="list-style-type: none"> Length measurements: km, hm, dam, m, dm, cm, and mm Relationship between two consecutive length measurements. Converting length measurements from greatest to the smallest. Comparing length measurements from km to mm Comparing the length of different objects /materials by measuring and observing them Comparing the distance between two places basing on their length and the number of times. Comparing length measurements using comparison symbols: (<,> and =). Word problems involving length measurement related to daily life involving add and subtract. Multiplication and division of length measurements by a whole 	<ul style="list-style-type: none"> Observing and measuring the length of different objects/ places then compare their length. In groups, use conversion table of length measurements to convert length measures from km to mm Word problems related to daily life involving addition and subtraction of length measurement Multiply and divide length measurement by a whole number In groups, discuss about the importance of the most used length measurement (km, m, cm and mm) basing to where they are used in real life. Visit tailors' workshop, construction /building places or any other places which use length measurement materials to know their uses.
<ul style="list-style-type: none"> Understand the length of km, hm, dam, m, dm, cm, and mm Understand the comparison among length measurements (ten times greater than or 10 times less than) and show the relationship between them from km to mm. 	<ul style="list-style-type: none"> Use a meter or a decameter to measure and determine the distance between different places in m and km. Read, write, compare, add, subtract, multiply and divide length measurements basing to in real life situations. Solve real life problems involving Length measurements. 	<ul style="list-style-type: none"> Measure quickly and accurately. Appreciate the importance of length measurements in real life. Develop the culture of kindness when measuring the length of different objects. 		

			number.	
Links to other subjects: English: reading and speaking, arts, ICT, Elementary Sciences and Technology when measuring the length.				
Assessment criteria: learners measure the distance or length of different objects using m/dam and solve word problems involving conversion, comparison, addition , subtraction of length measurements and multiply/ divide length measurements by a whole number.				
Teaching/lerning aids: meter ruler, string of m, decameter and small rulers, <i>rope , sticks ,tape measure, folding meter,....</i>				

Topic area : Measurementns and money				Sub-Topic Area: Mass measurements
Primary Three Mathematics		Unit 6: Mass measurements from kg up to g		Number of periods: 16
Key Unit competence: To be able to measure and compare the weight of different objects not exceeding 10kg, add, subtract, multiply and divide mass measurements from kg up to g.				
Learning objectives			Contents	Learners activities
Knowledge and understanding	Skills	Attitudes and Values		
<ul style="list-style-type: none"> Understand the relationship between mass measurements: kg, hg, dag and g Identify the greatest and the lowest unit of mass measurements from kg up to g. 	<ul style="list-style-type: none"> Measure the weight of different objects having the weight less than or equal to 10 kg without error and using balances Convert mass measurements from kg up to g using conversion table Differentiate and compare the weight 	<ul style="list-style-type: none"> Develop the spirit of kindness and the culture truth in weighing different objects. Measure the weight of different objects in the right way without error Appreciate the importance of mass measurement in daily life 	<ul style="list-style-type: none"> Mass measurements from kg up to g: <ul style="list-style-type: none"> Relationship between mass measurements: kg, hg, dag and g Reading and writing mass measurements from kg to g Converting mass measurements Comparing mass measurements: by weighing and using symbols of comparison $<$, $>$ and $=$. Word problems related to daily life involving mass measurements. Problems related to daily life involving addition and subtraction of mass measurements Problems related to daily life involving multiplication and division of mass measurements and a whole number 	<ul style="list-style-type: none"> Measuring the weight of different objects using different types of balances. Comparing the weight of different objects by lifting or weighing them Ordering the weight of different objects Reading and writing the weight of weighed objects. Converting mass measurements using conversion table of mass measurements Solving word problems related to our daily life involving addition, subtraction, multiplication and division mass measurements. In groups, learners create/ formulate their own word problems related to their daily life involving addition, subtraction, multiplication and division mass measurements and provide

	<p>of different object.</p> <ul style="list-style-type: none"> • Solve problems involving mass measurements in daily life. 			<p>their answers/solution.</p> <ul style="list-style-type: none"> • Visiting nearby shops, supermarkets, markets, or any other places having objects to be weighed and balances for using. • In groups, discussing about the importance of using mass measurements and identifying where they are used in daily life
<p>Links to other subjects: English: Speaking,reading and writing ICT: knowledge and technology in measuring mass</p>				
<p>Assessment criteria:learners measure the weight of different objects using balance and work out word problems involving converting comparing, adding, subtracting, multiplying and dividing mass measurements</p>				
<p>Teaching/learning aids:Different types of balances,weighing stones, conversion table of mass measurements,different objects for weighing,....</p>				

Topic area: measurements and money			Sub-Topic Area: Capacity Measurements	
Primary Three Mathematics			Unit 7: Capacity Measurements	Number of periods: 16
<p>Key Unit competence: To be able to measure and compare the capacity of different objects in litre, add, subtract, multiply-and divide capacity measurements from liter (l) to milliliter (ml).</p>				
Learning objectives			Content	Learning activities
Knowledge and understanding	Skills	Attitudes and Values	<ul style="list-style-type: none"> Capacity measurements from from liter (l) to milliliter (ml): <ul style="list-style-type: none"> Relationship between capacity measurement: l, dl, cl, and ml Converting capacity measurements from liter (l) to milliliter (ml) Reading and Writing capacity measurements from liter (l) to milliliter (ml) Comparing capacity measurements from liter (l) to milliliter (ml) by lifting and using comparison symbols: >, <, = Word problems related to daily life involving addition, subtraction, 	<ul style="list-style-type: none"> In groups, compare and order liquid containers materials according to their capacity/volume. Use a oneliter container to measure different liquids containers and write down the capacity of each liquid container measured. Use a song to order capacity measurements from liter (l) to milliliter (ml). Discuss about the use of liter (l), centiliter (cl) and milliliter (ml) in real life Use conversion table of capacity measurements to convert units of capacity from liter (l) to milliliter (ml) Solving word problems related to real life involving addition, subtraction, multiplication and division of capacity measurements from liter (l) to milliliter (ml)
<ul style="list-style-type: none"> Understand the relationship between capacity measurements from liter (l) to milliliter (ml) Use conversion table of capacity measurements from liter (l) to milliliter (ml) to compare and order capacity measurements 	<ul style="list-style-type: none"> Measure and compare the capacity of liquids containers in liter (l) Write capacity of measured containers in liter (l), centiliter (cl) and milliliter (ml) Differentiate the capacity of different liquid containers according to their volume. Convert capacity measurements from liter (l) to milliliter (ml) using conversion table. Read, write, compare, add, subtract, multiply and divide the 	<ul style="list-style-type: none"> Develop the culture of kindness when measuring capacity measurements from liter (l) to milliliter (ml) Measure quickly and correctly the capacity of different liquid containers. Be trustworthy in measuring 		

<p>from liter (l) to milliliter (ml)</p>	<p>capacity measurements from liter (l) to milliliter (ml) using real life situations.</p> <ul style="list-style-type: none"> • Solve real life problems involving capacity measurements. 		<p>multiplication and division of capacity measurements from liter (l) to milliliter (ml)</p>	<ul style="list-style-type: none"> • In groups, learners create/ formulate their own word problems related to their daily life involving addition, subtraction, multiplication and division capacity measurements from liter (l) to milliliter (ml) using real life situations and provide their answers/solution. • Visiting nearby shops, supermarkets, markets, petrol station, pharmacy or any other places having liquid containers packed in liter (l), centiliter (cl) and milliliter (ml) • In groups, discuss about different liquids that can be measured in in liter (l), centiliter (cl) and milliliter (ml) and the importance of using capacity measurements and identifying where they are used in real life.
<p>Links to other subjects: English: speaking, reading and writing, Sciences and Technology in measuring liquids.</p>				
<p>Assessment criteria: learners should be able to accurately measure the capacity of different liquid containers in liter (l) using other liquid containers and solve word problems involving conversion, comparaisn, addition and subtraction of capacity measurements from liter (l) to milliliter (ml), multiply and divide capacity measurements from liter (l) to milliliter by a whole number.</p>				
<p>Teaching/learning aids:different liquid containers, bottles of one liter (l), spoons of 5 ml and 10 ml, medical bottles of 100 ml,...</p>				

Topic area: measurement and money			Sub-Topic Area: Rwandan Currency	
Primary Three Mathematics		UNIT 8: Rwandan money from 1Frw to 5000 Frw		Number of periods: 16
Key Unit competence: To be able to use appropriately Rwandan currency from 1 Frw up to 5000 Frw.				
Learning objectives			Content	Learning activities
Knowledge and understanding	Skills	Attitudes and Values		
<ul style="list-style-type: none"> Differentiate and identify the use of Rwandan money from 1 Frw up to 5000 Frw. Understand the value of Rwandan money from 1 Frw up to 5000 FRW 	<ul style="list-style-type: none"> Count Rwandan money less than or equal to 5000 Frw Use Rwandan money from 1 Frw up to 5000 Frw in buying, selling and exchanging activities. Make a list of what you can do using Rwandan money less than or equal to 5000 Frw and show how you can do saving activity. Identify the source of money and proper use money. Solving real life problems involving the use of money. 	<ul style="list-style-type: none"> Develop the culture of trustworthy in using Rwandan money Use money in the right way Develop the culture of making priorities of needs in using the available money. Develop the culture of saving 	<ul style="list-style-type: none"> Characteristics and Values of Rwandan money from 1Frw up to 5000 Frw. Importance of money and the sources of money Rwandan money from 1Frw up to 5000 Frw: <ul style="list-style-type: none"> Word problems involving exchange Word problems involving addition and subtraction Word problems involving multiplication and division Importance of saving and small business that generate income. 	<ul style="list-style-type: none"> In groups, observe and describe Rwandan money from 1 Frw up to 5000 Frw Compare Rwandan money from 1 Frw up to 5000 Frw starting from buying affordable items/objects/materials and use of available money to buy a ticket (what can you buy if you have 1000 Frw?,...) In groups, Use drawings and pictures of Rwandan money from 1 Frw up to 5000Frw to identify their characteristics. Make a list of priority objects/materials or any other things you can buy using 1000Frw. Use games to carry out buying and selling activities (In buying and selling: a buyer and a seller, in bank: a depositer and a withdrawer, in job: employer and employee....) Discuss about the source of money, proper use of money, the culture of saving and the importance of small business that generate income (The teacher using different questions when guiding the discussion).

Links to other subjects: reading and vocabularies in English,being trustworthy person in social studies

Assessment criteria: learners are able to differentiate Rwandan money less than or equal to 5000 Frw, work out exchange of Rwandan money less than or equal to 5000 Frw and solve word different problems involving addition,subtraction,multiplication and division of Rwandan money less than or equal to 5000 Frw.

Teaching/lerning aids: Rwandan money from 1 Frw up to 5000 Frw, drawings/pictures of coins and notes of Rwandan money, manila papers.

Topic area: Measurements and money			Sub-Topic Area: Time measurements	
Primary Three Mathematics		Unit 9: Time measurement	Number of periods: 24	
Key Unit competence: To be able to read and write the time shown by clockfaces or digital watches, use a calendar to show months of the year, days of each month and make a list of daily, weekly and monthly activities.				
Learning objectives			Content	Learning activities
Knowledge and understanding	Skills	Attitudes and Values	<ul style="list-style-type: none"> ▪ Read, write and tell time shown by clockface or a digital watch using the following expressions of time: <ul style="list-style-type: none"> • O'clock • Half past (30 minutes past or to) • Quarter past (15minutes past ...) • Quarter to (15minutes to ...) ▪ Using a calendar to determine: <ul style="list-style-type: none"> • Months of the year (Twelve months of the year) • Days of each month • Days of the year • Hours of the day ▪ Making a list of weekly and monthly activities 	<ul style="list-style-type: none"> ▪ Use digital watches and clockfaces to differentiate the indicators of hours, minutes and seconds. ▪ Using expressions of time (o'clock, half past, quarter past and quarter to) to carry out activities about telling time ▪ Draw a digital watch or clockface showing the time given and vice versa. ▪ In groups, discuss about your daily activities and make a plan showing the time to carry out them. ▪ In groups, use a calendar to identify the months of the year and the days of each month. ▪ Use a calendar to carry out activities of reading different dates ▪ Discuss about the use of the time and the importance of respecting time in daily life activities.
<ul style="list-style-type: none"> • Order hours of a day. • Understand the time shown by a clockface or a digital watch • Name and identify the months of the year and the days of each month 	<ul style="list-style-type: none"> • Read and tell the time shown by both clockface and digital watch • Read the date on the calendar. • Convert days into months and vice versa • Convert months into years and vice versa. 	<ul style="list-style-type: none"> • Develop the spirit of time management • Appreciate the value of time in daily situations • Develop the spirit of orderliness and the respect time 		
Links to other subjects: reading and vocabularies in English				
Assessment criteria: learners are able to read and write the time shown by clockfaces or digital watches, use a calendar to show months of the year, days of each month and make a list of their weekly and monthly activities.				
Teaching/learning aids: digital watches and clockfaces , calendars, manila papers,...				

Topic area: Directions and Geometry			Sub-Topic Area: Types of lines and angles	
Primary Three Mathematics			Unit 10: Types of lines and angles	Number of periods: 16
Key Unit competence: To be able to identify and draw parallel, perpendicular and intersecting lines, draw and compare right, acute and obtuse angles.				
Learning objectives			Content	Learning activities
Knowledge and understanding	Skills	Attitudes and values	Types of lines:	
<ul style="list-style-type: none"> -Differentiate straight parallel lines, straight perpendicular and straight intersecting lines -Identify and describe the characteristics/ properties of right, acute and obtuse angles -Differentiate right, acute and obtuse angles 	<ul style="list-style-type: none"> - Show straight parallel lines, straight perpendicular lines and straight intersecting lines on different materials located in and out of the classroom. -Draw straight parallel lines, straight perpendicular lines and straight intersecting lines -Draw right, acute and obtuse angles -Show right, acute and obtuse angles on different 	<ul style="list-style-type: none"> -Develop the spirit of observation - Be a goal-oriented person 	<ul style="list-style-type: none"> • Straight lines • Straight parallel lines • Straight perpendicular lines • Straight intersecting lines <p>Angles:</p> <ul style="list-style-type: none"> • Right angle • Obtuse angle • Acute angle • Drawing right, acute and obtuse angles then measure them • Compare drawn and measured right, acute and obtuse angles 	<ul style="list-style-type: none"> -Use objects/materials located in and out of the classroom to identify the types of lines. -Use a ruler and square ruler to draw straight lines, straight parallel lines, straight perpendicular lines and straight intersecting lines - In groups, discuss about the use of different types of lines and where they are used in real life. -Use objects/materials or different measurements to identify and compare right, acute and obtuse angles. -Use a ruler and square ruler to draw and measure right, acute and obtuse angles -In groups, discuss about the use angles and where they are used in real life.

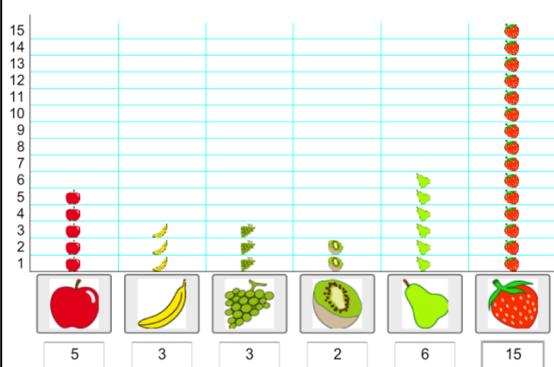
	objects/materials located in and out of the classroom.			
Links to other subjects: reading and in speaking English ,drawing				
Assessment criteria: learners should be able to draw and discover parallel, perpendicular and intersecting or cutting lines. Draw, measure and compare right, acute and obtuse angles				
Teaching/lerning aids: edges, meter ruler, protractor, manila papers,pencils,...				

Topic area: Directions and geometry			Sub-Topic Area: Geometrical figures and a circle	
Primary Three Mathematics			Unit 11: Square, rectangle, triangle and circle	Number of periods: 16
Key unit competence: To be able to draw and describe a square, rectangle, triangle and circle, and find the perimeter of a square, rectangle, and triangle				
Learning objectives			Contents	Learners activities
Knowledge and understanding	Skills	Attitudes and Values		
<p>-Identify the properties of a square, rectangle triangle and a circle</p> <p>- Explain how to find the perimeter of square, rectangle and triangle.</p> <p>- Differentiate the types of triangles</p> <p>- Identify the properties of a circle</p>	<p>-Draw a square, a rectangle, a triangle and a circle.</p> <p>-Draw the diagonals and median of a square and a rectangle.</p> <p>-Differentiate square, rectangle, triangle and circle from other geometrical figures</p> <p>-Give examples of objects having the same shape with a square, rectangle, triangle and circle</p> <p>- Differentiate the types of triangles</p>	<p>- Develop the culture of observation.</p> <p>- Be a goal-oriented person and live well with others</p>	<p>- Geometric figures and their properties:</p> <ul style="list-style-type: none"> • Square • Rectangle • Triangle <p>- Finding the perimeter of:</p> <ul style="list-style-type: none"> • Square • Rectangle • Triangle <p>- Diagonals and medians of a square and a rectangle</p> <p>- Types of triangles:</p> <ul style="list-style-type: none"> • Equilateral triangle • Isosceles triangle • Right angled or right triangle • Scalene triangle <p>- Circle and its properties:</p>	<p>- Find out a square, a rectangle, a triangle and a circle from others figures</p> <p>- Describe a square, a rectangle, a triangle and a circle</p> <p>- Draw a square, a rectangle, a triangle and a circle</p> <p>- Find the perimeter of a square, a rectangle, and a triangle using the sum of all sides.</p> <p>- Fold a paper into two equal parts then show the medians of a square and rectangle.</p> <p>- Use a ruler to draw and determine the diagonals of a square and rectangle.</p> <p>- Draw a circle using a rope and ruler and a pair of compass to find out the properties of a circle: center, radius and diameter</p> <p>- Use different games to differentiate the studied geometrical figures.</p> <p>- In groups discuss about the objects/materials which have similar shape as that of a square,</p>

	- Draw a circle and identify its center, radius and diameter		<ul style="list-style-type: none"> • Center • Radius • Diameter 	rectangle, triangle and circle. - In groups, discuss about the importance of studying a square, rectangle, triangle and circle.
Links to other subjects: drawing and physical education				
Assessment criteria: learners are able to draw and describe a square, rectangle, triangle and circle and find the perimeter of a square, a rectangle and a triangle.				
Teaching/learning aids: different geometric figures, meters, angles, rules and compass.				

Topic area: Directions and geometry			Sub-Topic Area: Grid	
Primary Three Mathematics		Unit 12: grid	Number of periods: 8	
Key unit competence: To be able to draw a grid, plot points or geometric figures on the grid according to its posts and crossing bars.				
Learning objectives			Content	Learning activities
Knowledge	Skills	Attitudes	Characteristics of a grid: <ul style="list-style-type: none"> • Posts and crossing bars. • Position of a point on a grid. • Drawing a square, a rectangle and a triangle on a grid and the edges of ach figures 	<ul style="list-style-type: none"> - In groups, draw a grid using 10 straight vertical and 10 straight horizontal lines: 10 posts and 10 crossing bars. - Work out the following activities: <ol style="list-style-type: none"> 1. Give a number to each post and crossing bar. Example:(1,2,3, 4,5,6,7,8,9 and 10) represent the posts shown by straight horizontal lines and (1,2,3, 4,5,6,7,8,9 and 10) also represent the crossing bars shown by straight vertical lines 2. Put points A, B and C on the grid following posts and crossing bars 3. Locate the drawn points on a grid by counting number of posts and crossing bars [Example: Point A is on the second post and fourth crossing bar: A (2,4)] <ol style="list-style-type: none"> 1. Putting a geometric figure on a grid and show its edges - In groups, discuss about a grid and identify where the grid can be used in daily life activities.
<ul style="list-style-type: none"> - Orient a point on the grid. - Show a geometric figure located on the grid basing on posts and crossing bars. 	<ul style="list-style-type: none"> - Draw a grid and orient a point or a geometric figure located on the grid. - Put a point on the grid basing on a given post and a crossing bar - Draw a geometric figure on a grid using its coordinates. 	<ul style="list-style-type: none"> - Develop the culture of observation. - Develop the spirit of orderliness 		
Links to other subject: Arts and geography				
Assessment criteria: learners should be able to draw a grid, orient and put points or geometric figures on a grid according to its posts and crossing bars (coordonates)				
Teaching/learning aids: edges ,ruler, meter, manila papers				

Topic area: Algebra			Sub-Topic Area: Equation	
Primary Three Mathematics		Unit 13: Missing numbers in mathematics expressions involving addition, subtraction, multiplication and division.		Number of periods: 16
Key Unit competence: To be able to find the missing numbers using rules of counting.				
Learning objectives			Contents	Learners activities
Knowledge and understanding	Skills	Attitudes and Values		
<ul style="list-style-type: none"> - Understand the concept of equation - Understand the rule used to find the missing number in addition, subtraction, multiplication and division of numbers 	<ul style="list-style-type: none"> - Determine the rule used when finding the missing number - Find the missing numbers in different exercises involving addition, subtraction, multiplication and division - Solve word problems about finding the missing numbers in relation with daily life 	<ul style="list-style-type: none"> - Develop critical thinking and orderliness. 	<ul style="list-style-type: none"> -Finding the missing number in addition, subtraction, multiplication or division: <ul style="list-style-type: none"> ▪ Concept of equation ▪ Rules applied when finding the missing number ▪ Exercises of finding the missing numbers in addition, subtraction, multiplication and division. ▪ Finding the missing numbers in a number pattern / sequence. 	<ul style="list-style-type: none"> -Form groups of counters and find the missing counters in order to match with the given number. - In pair, use number cards to work out different exercises and find the missing number in addition, subtraction, multiplication or division. In groups, discuss about the rule of finding the missing number in different exercises of addition, subtraction, multiplication or division. examples (... + 36 = 896)
Links to other subject: General science, science and technology				
Assessment criteria: Learners should be able to find the missing numbers in a number sequence and determine the rule to be applied.				
Teaching/learning aids: Different counters, manilla papers showing various examples.				

Topic area: Algebra			Sub-Topic Area: Drawings and geometrical figures	
Primary Three Mathematics		Unit 14: Pictograph used in counting		Number of periods: 8
Unit Key Competence: To be able to analyse and describe the information on a pictograph.				
Learning objectives			Content	Learning activities
Knowledge and understanding	Skills	Values and attitudes		
<p>- Understand how to make a pictograph used in counting basing on the quantity of objects represented on it</p> <p>-Describe and explain-the information on a pictograph</p>	<p>- Demonstrate the quantity of objects and any other information represented on a pictograph.</p> <p>- Analyse the quantity of objects represented on a pictograph</p>	<p>-Demonstrate critical thinking skills and problem solving skills in daily life.</p>	<ul style="list-style-type: none"> ▪ Pictograph used in mathematics to demonstrate the number of objects represented: ▪ Making groups of objects and representing them on a pictograph. ▪ Description of various pictographs and determination of the number of objects represented on it ? ▪ Making a pictograph basing on the given information or objects. 	<ul style="list-style-type: none"> • Use real materials or drawings to show, describe and analyse the information provided by the following pictograph. <p>Example: 3 bananas, ...</p>  <p>- Make a pictograph basing on the given information or objects.</p>
Links to other subject: Statistics, general knowledge				
Assessment criteria: Learners can analyze , describe the information given by a pictograph. and represent any given information on a pictograph				
Teaching/ learning aids: Various materials, drawings of a pictograph on manilla papers,...				

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Subjects in Primary 1 – 3	Number of periods (1 period = 40 min.)		
	P ₁	P ₂	P ₃
1. Kinyarwanda	8	8	8
2. English	8	8	8
3. French	3	3	3
4. Mathematics	8	8	8
5. Social and Religious Studies	4	4	4
6. Sciences and Elementary Technology	4	4	4
7. Creative arts: Music, Dance and Drama, Fine arts and crafts	2	2	2
8. Physical Education and Sports	2	2	2
9. Co-curriculum activities	3	3	3
Total number of contact periods per week	42	42	42
Total number of contact hours per week	28 hrs	28 hrs	28 hrs
Total number of contact hours per year (39 weeks)	1092 hours /year		