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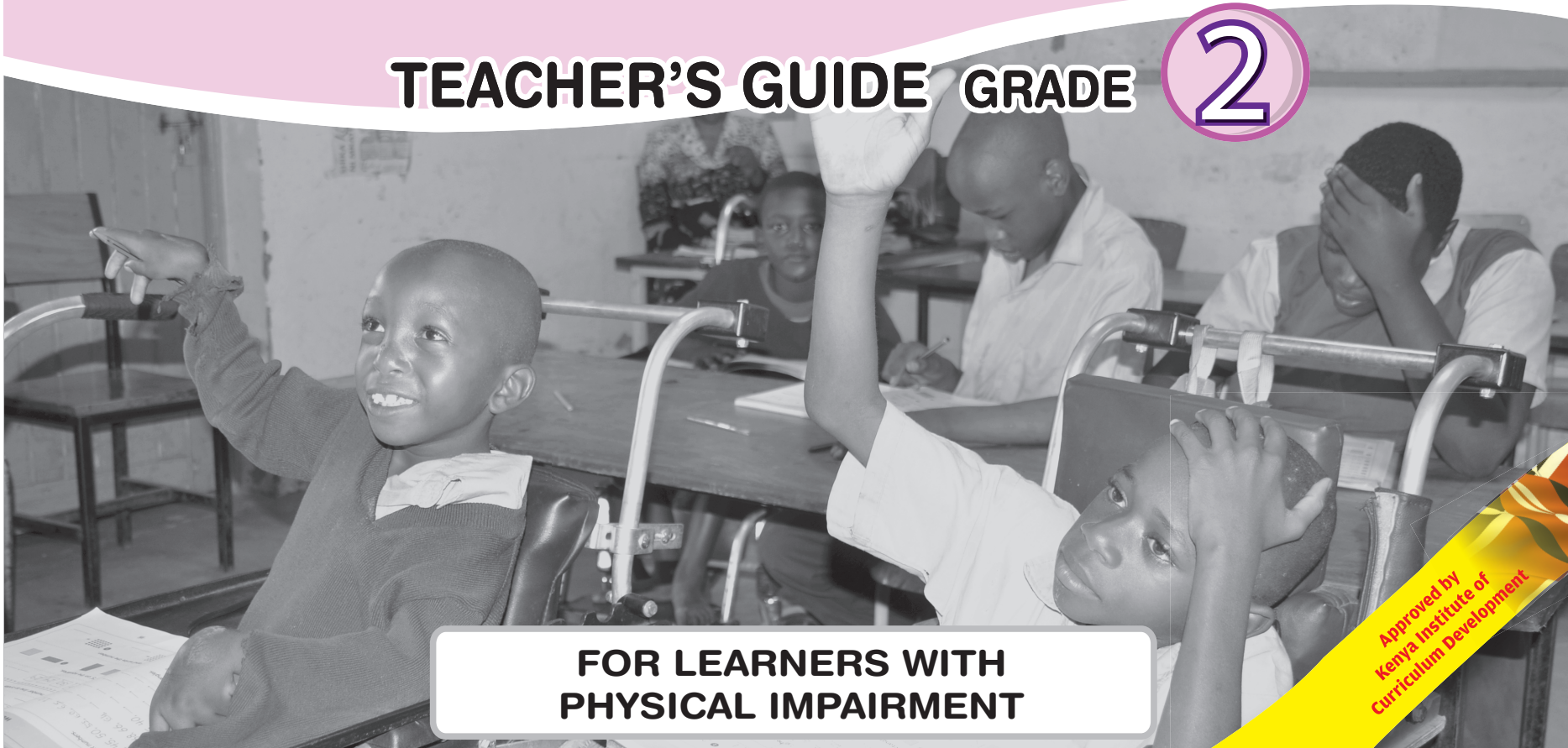
MATHEMATICS

TEACHER'S GUIDE GRADE 2



FOR LEARNERS WITH PHYSICAL IMPAIRMENT

Approved by Kenya Institute of Curriculum Development

MATHEMATICS ACTIVITIES BOOK

TEACHERS GUIDE GRADE 2

FOR LEARNERS WITH

PHYSICAL IMPAIRMENT

MINISTRY OF EDUCATION

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Foreword

The focus of education in any country is the provision of quality education and training to all its citizens. The Government of Kenya is committed towards this goal as one of the Sustainable Development Goals (SDGs), a contributor to other core SDGs and a right for all, irrespective of their physical status**,** according to the *2010 Constitution of Kenya*. Quality education is paramount to any country in development and the building of a just and cohesive society that enjoys inclusive and equitable social development. In an effort to realise national aspirations of education as envisioned in all policy documents, the Government has provided a policy framework to offer direction in modernising and re-branding the country's education and training system including that of learners with special needs and disabilities (SN&D). These documents include *Vision 2030*, National Education Sector Strategic Plan 2018-2022 (NESSP) and Sessional Paper No. 1 of 2019.

It is the focus of Government to ensure maintenance and improvement of inclusive, equitable and quality education to avoid persistent regional disparities in learning outcomes as well as access to education based on gender, diverse needs, location and region. The basis of the ongoing education reform is to make education in Kenya competitive internationally, and socio-economically viable. The Government is ensuring that education strives to stimulate innovation and enhance acquisition of 21st Century skills through provision and adaptation of content for learners with special needs and disabilities. These are embedded in the competencies, pertinent and contemporary issues as well as the values in the curriculum.

The Ministry of Education (MoE), in partnership with Global Partnership for Education (GPE) and other development partners, has invested heavily in the provision of educational materials, infrastructure, and human resources in order to enhance the quality of education delivered in Kenyan schools. Evidence-based interventions and global best practices have been adopted in teaching numeracy in early grades.

This adapted mathematics teachers' guide for learners with special needs and disabilities is based on Competency Based Curriculum and is approved by the Kenya Institute of Curriculum Development for use in schools. It will no doubt inform and guide the teaching and learning of mathematics in early grades. The design of the guide ensures that all Kenyan learners with special needs and disabilities can perform arithmetic operations accurately and efficiently. I, therefore, urge our partners to continue supporting the education sector in the implementation of strategies in the National Education Sector Plan to promote the quality of education.

Prof. George A. O. Magoha, EGH
Cabinet Secretary, Ministry of Education

Preface

The goal of the Ministry of Education is to provide quality and inclusive education to all learners irrespective of their socio-economic and physical status. In line with this, reforms have been undertaken in Kenya to improve the education sector with a view to making it globally competitive. The Competency Based curriculum that has been rolled out emphasises nurturing every learner's potential to ensure they are engaged, empowered and ethical. The focus of the curriculum is to focus on the provision of quality and relevant education.

Research initiatives such as National Assessment Monitoring Learning Achievement (NASMLA) and Southern and Eastern Africa Consortium for Monitoring Education Quality indicate the need for improved achievement in literacy and numeracy competencies among learners with special needs. Indeed, recent developments in the education reform process emphasise the role of literacy and numeracy competencies in supporting learning, especially in the foundational early grades. The increasing focus on the quality of education has resulted in interventions that have shown a positive impact on literacy and numeracy outcomes.

Over time, the Ministry of Education increasingly focused on improving the quality of education in lower primary, particularly in the areas of literacy and numeracy. The Early Grade Mathematics component of the Kenya GPE - Primary Education Development (PRIEDE) Project is a scale-up of the Primary Mathematics and Reading (PRIMR), which was supported by USAID and DFID.

The overarching goal of Early Grade Mathematics is to improve early grade mathematics competency among learners. The programme aims at improving teacher capacity for effective delivery of classroom instruction, improving access to appropriate mathematics textbooks, supplementary materials, and enhancing instructional support and supervision of teachers by Curriculum Support officers and head teachers.

This adapted teachers' guide for learners with special needs and disabilities is based on the Competency Based Curriculum and is approved by Kenya Institute of Curriculum for use in the teaching of mathematics in early grades. This guide aims at helping pupils with special needs and disabilities to learn a variety of mathematical skills and concepts.

Dr Belio R. Kipsang, CBS
Principal Secretary
State Department of Early Learning and Basic Education

Acknowledgements

This adapted teacher's guide for learners with special needs and disabilities has been adapted as a result of the generous financial support from the Global Partners in Education (GPE). The book was initially developed based on the 8-4-4 curriculum after a successful USAID/Kenya and DFID/Kenya funded pilot programme, the Primary Math and Reading Program (PRIMR). The book was reviewed in alignment with the Competency Based Curriculum and is approved by the Kenya Institute of Curriculum Development.

The Principal Secretary, State Department of Early Learning and Basic Education, Ministry of Education (MoE), Dr Belio Kipsang, and Dr Julius Jwan, were instrumental in tirelessly directing the technical efforts of the relevant directorates at MoE, the Kenya National Examinations Council (KNEC), Kenya Education Management Institute (KEMI), Kenya Institute of Special Education (KISE) and the Teacher's Service Commission (TSC).

In a special way, we thank the Global Partnerships for Education (GPE) for funding the implementation of the PRIEDE Project, and World Bank for effective supervision. We also express our deepest appreciation to Ruth Charo, the Task Team Leader (World Bank), who provided invaluable guidance and support in the adaptation process of this book.

Special recognition to MoE Director General Elyas Abdi, PRIEDE Project National Coordinator Martha Ekirapa, and KICD Senior Deputy Director Jacqueline Onyango of KICD for their outstanding support to the team during the process of the adaptation of this guide. Further, we acknowledge the role of the PRIEDE Project Component 1 Lead, Hellen Boruett, PRIEDE staff Juma Munyiri and Mr Joshua Kilundo for effective coordination of the whole process, and the crucial role of the relevant MoE Directorates: the Directorate of Quality Assurance and Standards, the Directorate of Primary Education, the Directorate of Special Needs Education, the Directorate of Field and other Services, CEMASTEA, KNEC, and KICD, and the TSC for providing all the required technical support.

More fundamentally, we wish to also recognise members of the multi-sectoral members of KICD Mathematics Panel and Early Grade Mathematics Technical Team for their invaluable commitment, support, immense individual contribution and sacrifice towards the completion of the adaptation of the content of this guide.

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Table Of Contents

MATHEMATICS BOOK 2
Teacher's Guide

IMPORTANT NOTES

Introduction

Welcome to Grade 2 Mathematics. The Early Grade Mathematics (EGM) is an initiative designed to support learners to succeed in Mathematics. This book aims at helping pupils to learn a variety of mathematical skills and concepts. Each lesson activity in the book is organized to have the Teacher's Guide and the pupil's book on one page. This is meant to make the teacher's work easier as the teacher will not be required to carry two books. The guide also helps the teacher to understand EGM methodologies and how to infuse them in Competence Based Curriculum (CBC).

Importance of this Guide

This guide helps the teacher to:

i. Identify the general, the specific learning outcomes, and the specific lesson learning outcomes for all the strands covered in Early Grade Math Book 2
ii. Prepare Schemes of Work and Lesson Plans
iii. Identify, select and use the most cost-effective learning resources
iv. Choose the most effective approaches and techniques in teaching Mathematics
v. Plan for the available time for more effective teaching
vi. Scaffold learners to achieve quality learning outcomes
vii. Carry out effective assessment
viii. Integrate the issues of Competence Based Curriculum (CBC) in Grade 2 Mathematics Activities

The Competence Based Curriculum and Early Grade Mathematics Methodologies

Competency based learning refers to systems of instruction, assessment, grading and academic reporting that are based on learners demonstrating that they have acquired knowledge and skills they are expected to learn as they progress through their education. The Competence Based Curriculum has therefore adopted Inquiry Based Learning (IBL) as the main learning methodology across all learning areas including Mathematics.

The guide has integrated the EGM methodology. The EGM methodology uses strategies aimed at ensuring learners develop easy and effective ways of solving mathematics tasks. The strategies are meant to help develop efficiency and automaticity in basic skills. The teacher is required to integrate the following CBC issues in the process of delivering a Mathematics lesson;

i) Core Competences

Competences often serve as the basis for skill standards in mathematics that specify the level of knowledge, skills, and abilities required as well as potential measurement criteria for assessing competency attainment. There are seven (7) core competencies to be achieved by every learner in Mathematics, namely: Communication and Collaboration, Critical Thinking and Problem Solving, Creativity and Imagination, Citizenship, Digital Literacy, Learning to learn and Self-efficacy.

ii) Values

According to the Competency Based Curriculum, there are eight core values to be nurtured in the learner namely love, responsibility, respect, unity, peace, patriotism, social justice, and integrity. The teacher is expected to identify value(s) to be nurtured in the learning experience in every strand.

iii) Pertinent and Contemporary Issues (PCIs)

During lesson preparation, the teacher has to be deliberate in identifying specific PCIs and planning how they shall be incorporated in the lesson. He /She should ensure activities on PCIs are undertaken and covered during the mathematics learning experiences.

iv) Differentiated Learning

Every learner learns differently. Individual learners have preferential ways in which they absorb, process, comprehend and retain information in mathematics. It is therefore important for teachers to understand the differences in their learners' preferential way of learning, so that they can implement best practice strategies into their daily activities, curriculum and assessments.

v) Special Learning Needs

Both the Pupil's book and the Teacher's Guide have been designed in a manner that removes learning barriers for all children regardless of their abilities or impairments. The books are designed to engage and empower learners despite their diverse needs and varied conditions that characterise their impairment or impediment. It is important for teachers to form a strong attachment and

trusting relationships with and among learners and affirm their love and respect to the learner's physical, emotional and social well-being. Teachers need to offer predictable and safe environment that stimulates learning. The learner's views and feelings should be respected and their uniqueness acknowledged in a positive way while avoiding comparing individual learner with others in class.

EGM and CBC Terminologies

Below are terminologies used in EGM and CBC and their meaning in the context of this guide;

1. **Draw/Write:** it is a term used to guide the teacher on what he/she writes on the board in the form of an example or illustrates in the form of a drawing as he/she starts developing the lesson
2. **Demonstrate:** the teacher is expected to show the learners how to work out an operation.
3. **Guide:** the learners to perform the activity as the teacher supports them.
4. **PCIs:** this is the abbreviation for Pertinent and Contemporary Issues

ORGANIZATION OF THE GUIDE

This book is organised in lesson units and provides a guide to the teacher on how to plan and execute the lesson. The curriculum design provides for 5 lessons per week for Grade 2 mathematics and therefore this book guides the teacher in each of these lessons. For every lesson, the book provides the following information;

a) Strand

This is the content area to be covered. The pupil's book covers three (3) strands, namely;

i. Numbers
ii. Measurement
iii. Geometry

These strands are organised in a spiral manner. This means lessons for each of the three strands are covered in each of the three terms in the year. The teacher's guide is also organised in the same manner.

b) Sub Strand

This is the content covered in one part of the Strand. A Sub Strand shall be covered in a number of lessons as suggested in the curriculum design.

c) Specific Lesson Learning Outcome

This is a statement of what a learner is expected to achieve and demonstrate at the end of a lesson. Specific lesson learning outcomes are generated from the specific learning outcomes given under a Sub Strand in the curriculum design.

d) Key Inquiry Question(s)

This is a reflection question as given in the curriculum design. A key inquiry question is the theme of the lesson and the teacher should ensure that learners are able to answer the question at the end of the lesson. A good key inquiry question is thought provoking and should encourage learners to explore to get answers and it uses the terms, "Why?", "Which?", "Where?", "When?", "Who?" and "How?".

e) Suggested Learning Resources

These are the suggested resources or materials to be used during a lesson for learning. The teacher may add or substitute the suggested resources. The teacher is advised to use locally available resources which are cost effective. It is important to remember that guest speakers are special resources because they possess the knowledge required. Teachers are advised to select those resource people who are ready to give the very best output. The surrounding environment is a resource and teachers are advised to source for materials that learners are familiar with.

f) Introduction

This is an activity that the teacher uses to begin the lesson. The teacher is encouraged to be innovative to ensure that the lesson is introduced in such a manner that arouses curiosity and interest of the learners.

g) Development

These are the activities (experiences) carried out by the teacher and learners in order to achieve the learning outcomes. The teacher's guide presents the lesson development in three levels, namely; "Teacher Activities": These are activities done by the teacher to demonstrate a skill to the learners.

"Learners and Teachers Activities": These are activities that are to be performed by the learners with the guidance of the teacher. The learner's activities are done in pairs or groups to enhance communication and collaboration.

“Learners Activities”: These are tasks given to the learners to perform on their own, in pairs or in groups. The teacher makes observations as learners do the activity and he/she supports them individually and also assesses. The teacher shall also refer learners to perform tasks given in the pupil’s book.

Teachers are encouraged to expose the learners to practical experiences which are necessary in learning mathematical concepts such as capacity, mass, length and time. The competence based curriculum (CBC) requires the teacher to select and plan the activities/ experiences that promote the achievement of the core competences, values, pertinent and contemporary issues (PCIs), community service learning, link to other learning areas and non-formal activities. The experiences include those that are performed in class, within the school compound, at the family level and out in the wider community.

h) Conclusion

This constitutes ending the lesson. The teacher could adopt different ways of ending the lesson which include; enquiring from the learners what they have learnt, giving them an activity which concludes the lesson among other ways.

i) Extended Learning

Extended learning involves activities or tasks that the teacher gives to the learners to perform outside the class, at home or in the wider environment. Some of the extended learning activities which are given in the curriculum designs include; community service learning activities and non-formal activities. What is given in the designs are just suggestions and therefore the teacher is encouraged to create more activities depending on the classroom context and the type of learners.

Extended learning is a form of experiential education where learning occurs through activities and reflection as learners connect what they learn in class with what is happening in the environment or the community to develop deeper understanding and skills for themselves. In the process, they link personal and social development with academic and cognitive development and this enhances understanding. Extended learning works best when there is a strong relationship and partnership between schools and teachers on one side and the parent/guardian and the entire community on the other. The parents/guardians need to be engaged and empowered to play a key role of supporting extended learning activities.

j) Suggested Assessment Methods

Some assessment methods have been incorporated in the curriculum designs. However, it is important for the teachers to realize that these are only suggestions meant to guide them in selecting the most appropriate assessment method.

Assessment should be a continuous process and should be part of lesson planning. The guide suggests where an assessment is most useful so that it serve the learner's individual needs. Formative assessment is very important in Mathematics as it helps the teacher to understand the varying abilities of the learners. It helps the teacher to make informed decisions on the learning activities to follow. Though the teacher may need to test certain content before the end of a strand, it is recommended that an assessment be done at the end of each sub strand, end of each strand, mid-term end of the term and year.

Some of the methods of assessment include; Oral testing mainly for brainstorming to assess learner's understanding, Short written puzzles during and at the end of the lesson, Practical work in class to solve some mathematical tasks and Observation to assess psychomotor and affective domains.

However, certain aspects such as PCIs, Values, Non-formal domain of learning and other aspects of the reformed curriculum need to be assessed continuously. It is recommended that teachers make use of the Assessment Rubrics provided in the curriculum designs as a tool of assessment.

PROFESSIONAL DOCUMENTS AND THEIR USE

In order to plan for effective delivery of the curriculum, it is crucial that teachers plan their work well. Professional documents are used to organise curriculum implementation. Kenya Institute of Curriculum Development develops curriculum designs. It is a vital document that the teacher must use in the teaching and learning process. The teacher should use the curriculum designs while preparing schemes of work, and lesson plan. Teacher is required to prepare the professional documents which includes schemes of work, lesson plan, record of work and assessment record.

TEACHERS GUIDE BOOK 2

INTRODUCTION

This Teacher's guide has been designed to assist the teacher in facilitating learning of the various concepts in the Mathematics curriculum design for Grade 2.This guide emphasizes learner participation in the process of acquisition of knowledge, skills and values (Competencies). In so doing, the book has suggested varied activities which the teacher ought to take the learners through. Although the guide has suggested teaching and learning resources and materials, the teacher is advised to be innovative and get more to make learning interesting.

This teacher's guide has been developed using the spiral approach. All the 14 sub-strands in the curriculum design will be covered in each of the three school terms. The learners will therefore meet the different concepts each term.

The teachers have been guided on what to teach in each lesson throughout the year. The content has been divided into three terms with term 1 and 2 having 11 weeks each and term 3 having 8 weeks.

At the beginning of each sub-strand there is a brief background that informs the teacher on what the learners have covered in the previous years and what the sub-strand will be addressing. The background also gives guidance on how the issues in the reformed curriculum could be integrated during the teaching of the various sub-strands.

It is hoped that this book will be useful in promoting the teaching and learning of Mathematics at this level.

TERM 1

NUMBERS

GENERAL LEARNING OUTCOME

The learner shuold be able to demonstrate mastery of number concept by working out problems in day to day life

NUMBER CONCEPT

Background Information

Learners have already learnt how to sort, match and order items either in increasing or decreasing order. The learners at this level are also able to recite number names in symbols up to 50.In this sub-strand, leaners will extend their knowledge of numbers by reading numbers 1-100 in symbols and representing the numbers using objects. Learners will also be expected to play digital games using learner digital devices (LDD) or any other information technology devices (IT).

The development of core competencies would be enhanced as learners work in purposive pairs or groups. The teacher should link the various components in the curriculum designs. These components include but are not limited to discussing issues like safety of materials being used which is one of the pertinent and contemporary issues (PCIs), values that can be nurtured such as unity, respect, patriotism, responsibility among others. The teacher should also involve learners in non-formal activities like counting different types of items in their classroom. The teacher may also discuss how the number concept is linked to Languages and Hygiene and Nutrition Activities. The teacher may organize visits to homes of the elderly for learners to listen to stories of how they used to count their possessions as a way of promoting learning outside the school.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to read or point or sign number symbols up to 20
SUB-STRAND NUMBER CONCEPT	**Key Inquiry Question:** How do you read number symbols? **Suggested Learning Resources:** Videos, audios, number cards, number charts, adapted LDDs, number communication board

Introduction

Learners to sing or hum or sign or tap a song on numbers for example, I *am number 1, I have come to dance…*

Development

Teacher Activities	**Demonstrate:** Show learners how to read number symbols 1 up to 20 on number cards
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to read numbers in symbols, 1 up to 20 on number cards. Learners listen to audio on reading of numbers
Learner Activities	Learners to do activities in pupil's book page 2
Conclusion	Learners to sing a song on numbers for example (girls sing odd numbers and boys sing even numbers).

Extended Learning

Learners to sing or hum or mime or sign or tap songs involving numbers in school and at home, for example during play activities.

NOTE: The adaptation made in these learning activities apply to all sudsequent learning activities under number concept, whole number, fractions, additions,subtractions and miltiplication substrands however besides these adaptations other adaptations have also been made under specific learning activities

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to read or point or sign number symbols up to 50.
SUB-STRAND NUMBER CONCEPT	**Key Inquiry Question:** How do you read number symbols? **Suggested Learning Resources:** Videos, audios, number cards, number charts, adapted LDDs, number communication board

Introduction

Learners to sing or hum or sign or tap a song on numbers *I am number 1, I have come to dance……..*

Development

Teacher Activities	**Demonstrate:** Show learners how to read number symbols 1 up to 50.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to read numbers 1 up to 50 in symbols. Learners watch a video on counting numbers. Light intensity (glare) should be reduced to suit learners with epilepsy.
Learner Activities	Learners to do activities in pupil's book page 3.
Conclusion	Learners to sing a song on numbers for example (girls sing even numbers and boys sing odd numbers).

Extended Learning: Learners to read or point or sign page numbers and in textbooks, religious books at school and at home.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to represent numbers up to 20 using objects.
SUB-STRAND NUMBER CONCEPT	**Key Inquiry Question:** How do you represent numbers using objects? **Suggested Learning Resources:** Books, pencils, balls, bottle tops, pen/ pencil grip, book holders, clips, page turners, muiltipurpose communication board, adapted LDDs, head/mouth pointers,universal cuff, multipurpose stamps

Introduction

Learners to answer questions orally or type or sign on representation of numbers using objects. For example, how many gates, how many doors and or windows are found at home, how many cups and plates?

Development

Teacher Activities	**Demonstrate:** Show learners how to represent numbers 3 and 20 using objects. Draw a two column table to represent objects and the corresponding number. For example; **Number** | **Objects** 3 | 20 |
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to represent numbers using concrete objects. Guide learners to fill in the table.
Learner Activities	Learners to do activities in pupil's book page 5.
Conclusion	A few learners represent numbers using objects in front of the class.

Extended Learning: Learners to represent numbers using objects both in school and at home.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to represent numbers up to 50 using objects.
SUB-STRAND NUMBER CONCEPT	**Key Inquiry Question:** How do you represent numbers using objects? **Suggested Learning Resources:** Bottle tops, marbles, crayons, pen/pencil grip, book holders, clips, page turners, muiltipurpose communication board, adapted LDDs, head/mouth pointers, universal cuff, multipurpose stamps

Introduction

Learners to represent numbers up to 20 using objects.

Development

Teacher Activities	**Demonstrate:** Show learners how to represent numbers 23 and 50 using objects. Draw a two column table to represent objects and the corresponding number. For example; **Number** | **Objects** 23 | 50 |
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to represent numbers up to 50 using objects. Guide learners to fill in the table.
Learner Activities	Learners to do activities in pupil's book page 7.
Conclusion	Learners to represent numbers using number cards and counters

Extended Learning : Learners to represent numbers using objects such as counting the number of classes, counting the number of homes in the village.

WHOLE NUMBERS

Background Information

In Grade One, learners learnt how to count numbers forward and backward up to 100.They also identified place value of ones, tens as well as reading and writing numbers 1 to 20 in words. In this sub-strand these concepts are developed further. Learners will count and write numbers up to 100 in symbols and identify place value up to hundreds. The learners will also write numbers 1-20 in words. Learners will also make patterns using numbers up to 100 and it is hoped that they will appreciate number patterns as they skip on the number line. The teacher should guide learners in playing digital games in school and outside school.

The development of core competencies would be enhanced as learners work in purposive pairs or groups. The teacher should link the various components in the curriculum designs. These components include but not limited to discussing issues like safety of materials being used (PCIs), values that can be nurtured such as unity, respect, patriotism, and responsibility among others. The teacher should also involve learners in non-formal activities like planting flowers following a pattern in the school compound. The teacher may also discuss how the whole number concept is linked to Languages, Environmental and Movement and Creative Activities. At home, learners may assist in arranging chairs and tables in rows and columns in community functions as a way of promoting learning outside the school.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to count in 2s up to 20 forward and backward.
SUB-STRAND WHOLE NUMBERS	**Key Inquiry Question:** How do you count numbers forward and backward? **Suggested Learning Resources:** Counters, Number line, sticks, straws, stones, seeds, grains, adapted LDDs/ICT device , number communication board

Introduction

Learners to count or point or sign numbers in 1's upto10 forward and backward.

Development

Teacher Activities	**Demonstrate:** Show learners how to count forward and backward in 2's up to 20 using a number line.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to practice counting forward and backward in 2's up to 20 starting from any point. Learners use a number line to count forward and backward.
Learner Activities	Learners to do activities in pupil's book page 8.
Conclusion	Learners to sing a song in relation to counting in 2's.

Extended Learning; During cleaning and ordering items in school and at home, learners can arrange items by counting in 2's.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to count by 2 up to 50 forward and backward.
SUB-STRAND WHOLE NUMBERS	**Key Inquiry Question:** How do you count numbers forward and backward? **Suggested Learning Resources:** Counters such as sticks, straws, stones, seeds,grains, adapted LDDs/ ICT device, number communication board

Introduction

Learners to count or point or sign numbers in 2's forward and backward up to 20.

Development

Teacher Activities	**Demonstrate:** Show learners how to count or point or sign numbers in 2's up to 50 forward and backward using counters.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to count or point or sign numbers in 2's up to 50 forward and backward starting from any point using counters.
Learner Activities	Learners to do activities in pupil's book page 9.
Conclusion	Learners to play a game of counting in 2's up to50.Learners with health impaired issues as asthma, epilepsy,heart disease, sickle cell anemia and those with brittle born should be allowed to perform less vigorous activities according to their level of ability.

Extended Learning; Learners can be involved in counting or pointing or signing numbers in 2's up to 50 during play time with peers in school and at home.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to identify place value of digits in numbers up to tens.
SUB-STRAND WHOLE NUMBERS	**Key Inquiry Question:** How do you identify the position of a digit in a number? **Suggested Learning Resources:** Sticks, straws, place value chart, adapted LDDs / ICT device, number communication board

Introduction

Learners to write or sign or stamp or mount or type numbers in tens and ones.

Development

Teacher Activities	**Demonstrate:** Show learners how to represent 45 on the place value chart.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to represent numbers on the place value chart.
Learner Activities	Learners to do activities in pupil's book page 10.
Conclusion	Learners to use number cards to represent numbers on the place value chart. Learners with motor and those with missing limbs could use alternative functional parts of their body, appropriate assistive devices with assistance where necessary under their instructions.Apply these adaptations to all activities that require motor skills in this strand.

Extended Learning; Learners count items in school and at home such as seedlings, jerricans, plates, toothbrushes and represent their numbers on place value chart.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to read or point or sign or and write or type or stamp or mount number symbols up to 20.
SUB-STRAND WHOLE NUMBERS	**Key Inquiry Question:** How do you read and write numbers? **Suggested Learning Resources:** Number chart, number cards, video clips, adapted LDDs/ ICT devices, multipurpose communication board, pen/pencil grips, page turners, book holders, head/mouth pointers, multipurpose stamps, universal cuff

Introduction

Learners to read or point or sign and write or stamp or mount or type number symbols up to 10.

Development

Teacher Activities	**Demonstrate:** Show learners how to read or point or sign and write or type or stamp or mount numbers 1 up to 20 using number charts and number cards.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to read or point or sign and write or type or stamp or mount numbers using number cards such as jumble numbers in a box, then learners play a fishing game of reading and writing.
Learner Activities	Learners to do activities in pupil's book page 11.
Conclusion	Learners to pick numbers from a box, read or point or sign and write or type or stamp or mount them on the board.

Extended Learning; Learners to read or point or sign or type or stamp or mount and write numbers in school and at home such as oncalendars, storybook pages and numbers in religious books.

NOTE: Adaptations on reading and writing in this lesson, apply to all subsequent activities involving reading and writing under whole numbers, addition, subtraction and multiplication sub strands.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to read or point or sign and write or type or stamp or mount number symbols up to 50.
SUB-STRAND WHOLE NUMBERS	**Key Inquiry Question:** How do you read and write numbers in symbols? **Suggested Learning Resources:** Number chart, number cards, video clips, adapted LDDs/ ICT devices, number communication board, pen/ pencil grips, book holders, page turners, head/pinters, universal cuff, multipurpose communication board, multipurpose stamp

Introduction

Learners to read or point or sign and write or stamp or type or mount number symbols 1 to 20.

Development

Teacher Activities	**Demonstrate:** Show learners how to read and write numbers 1 up to 50 using number charts and number cards.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups read and write numbers up to 50 from number cards, for example jumble numbers in different baskets and play a fishing game of reading and writing numbers.
Learner Activities	Learners to do activities in pupil's book page 12.
Conclusion	Learners to pick numbers from different baskets, read and write them on the board.

Extended Learning; Learners, read and write numbers in school and at home such as from number charts, storybook pages and numbers in religious books.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to read and write numbers up to 10 in words.
SUB-STRAND WHOLE NUMBERS	**Key Inquiry Question:** How do you read and write numbers in words? **Suggested Learning Resources:** Cards with numerals and words, video clips, adapted LDDs / ICT devices, pen/pencil grips, head/mouth pointers, multipurpose communication board, multipurpose stamp, universal cuff, book holders.

Introduction

Learners to answer questions on how to write numbers 1 to 10 in words.

Development

Teacher Activities	**Demonstrate:** Show learners how to read and write numbers 1 up to 10 in words from number cards. Pick, flash, read and write numbers in words one number at a time.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to read and write numbers up to 10 in words using number cards
Learner Activities	Learners to do activities in pupil's book page 13.
Conclusion	Learners to play a spelling game for numbers, having an idea of the first letter or last letter of the word.

Extended Learning; Learners to spell and write or type or stamp or mount numbers up to 10 in words at school, home and in the community.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to work out missing numbers in patterns up to 20 in 2's.
SUB-STRAND WHOLE NUMBERS	**Key Inquiry Question:** How do you complete a number pattern? **Suggested Learning Resources:** Number cards, video clips, string, rope, adapted LDDs,/ ICT devices, multipurpose communication board, pen/pencil grips, head/mouth pointers, multipurpose stamp, universal cuff, book holders

Introduction

Learners to count or point or sign in 1's and 2's up to 10 both forward and backward.

Development

Teacher Activities	**Write:** 12, 14, 16, _ and 19, 17, 15, _ . **Demonstrate:** Show learners how to identify the rule of the pattern. Work out missing numbers in patterns up to 20.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to work out missing numbers in patterns up to 20.
Learner Activities	Learners to do activities in pupil's book page 14.
Conclusion	Using a string, suspend number cards forming a pattern with some missing numbers. Ask the learners to work out the missing numbers.

Extended Learning; Learners to play digital games involving number patterns, both in school and at home. Learners with motor difficulties and those with missing limbs could use adapted LDDs/ICT devices (keyboard, sensitive touch screen) which enhance maniplation by head/ mouth pointers, fingers or toes. Reduce light intensityor glare for learners with epilepsy.

Note:The adaptations in this learning activity applyto all subsequent activities that involve the use of digital devices under whole numbers, fractions, addition, subtraction and division substrands.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to work out missing numbers in patterns up to 50 in 5's.
SUB-STRAND WHOLE NUMBERS	**Key Inquiry Question:** How do you complete number patterns? **Suggested Learning Resources:** Cards with numerals, video clips, adapted LDDs / ICT devices, multipurpose communication board, head/mouth pointers, pen /pencil grips, purpose stamp, universal cuff

Introduction

Learners to count or point or sign numbers in 5's up to 50 both forward and backward.

Development

Teacher Activities	**Write:** 20, 25, 30, 35, 40, __ and 50, 45, 40, 35, 30,__. **Demonstrate:** Show learners how to identify the rule of the pattern and work out the missing numbers in the patterns upto 20.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to work out missing numbers in patterns up to 50.
Learner Activities	Learners to do activities in pupil's book page 16.
Conclusion	Learners to stand on straight lines up to a maximum of 50. Let each 5th count step out of the line. Learners to identify the missing numbers in the line. Enough space should be created for learners using mobility and positioning devices.

Extended Learning; Learners to play games involving skip-counting in 5's using a number line, both in school and at home.

FRACTIONS

Background Information

In this sub-strand learners will be introduced to the fraction ½ and ¼ as part of a whole and as part of a group. Learners may however, have experiences from home where they have shared whole items like fruits, sweets or even bread.

It is from this background that the teacher can introduce a half (½) and a quarter (¼) as part of a whole using items like an orange, piece of stick, loaf of bread, circular and rectangular cut-outs. In introducing fractions as part of a group the teacher may use items like pebbles, marbles, straws, sticks, bottle tops or any other safe type of counter. Knowledge of sorting and grouping acquired in the earlier grade will be useful in this sub-strand. Leaners will also be expected to play digital games using LDD or any other IT devices.

The development of core competencies would be enhanced as learners work in purposive pairs or groups. The teacher should link the various components in the curriculum designs. These components include but are not limited to discussing issues like safety of materials being used (PCIs), values that can be nurtured such as unity, respect, patriotism and responsibility among others. The teacher should also involve learners in non-formal activities like sharing edible food items in halves and quarters in school. The teacher may also discuss how the concept on fractions is linked to Languages and Hygiene and Nutrition Activities. Learners may assist in sharing items in halves and quarters in community functions as a way of promoting learning outside the school.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to identify a half as part of a whole.
SUB-STRAND FRACTIONS	**Key Inquiry Question:** How do you get two equal parts from a whole? **Suggested Learning Resources:** Paper cut-outs, manila papers

Introduction

Learners to answer questions on how they share items in school, at home and in the community.

Development

Teacher Activities	**Demonstrate:** Show learners how to identify a half as part of a whole using circular paper cut-outs by folding.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups fold circular paper cut-outs to get two equal parts. Shade one part to identify a half as part of a whole.
Learner Activities	Learners to do activities in pupil's book page 16.
Conclusion	Learners to paste halves as parts of wholes on manila papers and display at the learners' corner.

Extended Learning; Learners share wholes into halves in school, at home and in the community. For example bread, chapati, potatoes, oranges.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to identify a half as part of a whole.
SUB-STRAND FRACTIONS	**Key Inquiry Question:** How do you get two equal parts from a whole? **Suggested Learning Resources:** Paper cut-outs, manila papers , masking tape, paper clips

Introduction

Learners to answer questions on how they share items in school, at home and in the community.

Development

Teacher Activities	**Demonstrate:** Show learners how to identify a half as part of a whole using rectangular paper cut-outs by folding.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups fold rectangular paper cut-outs to get two equal parts. Shade one part to identify a half as part of a whole.
Learner Activities	Learners to do activities in pupil's book page 17.
Conclusion	Learners to paste halves as parts of wholes on manila papers and display at the learners' corner.

Extended Learning; Learners share wholes into halves in school, at home and in the community. For example bread, and sugarcane.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to write a half using symbols.
SUB-STRAND FRACTIONS	**Key Inquiry Question:** How do you write a half using numbers? **Suggested Learning Resources:** Universal cuff, multipurpose stamps number communication board, page turners, pen/pencil grips, adapted LDDs/ ICT device, adapted writing materials, head/mouth pointers, paper cut-outs, felt pens, manila paper

Introduction

Learners answer questions on a half as part of a whole.

Development

Teacher Activities	**Demonstrate:** Show learners how to represent a half using paper cut-outs by folding, Show learners how to write a half in symbols as ½.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups fold a rectangular and a circular paper cut-out to get halves. Shade one of the halves in each cut-out and represent it as 1 out of 2; which is ½.
Learner Activities	Learners to do activities in pupil's book page 18.
Conclusion	Learners to draw, shade and label a half using symbols on the board

Extended Learning; Learners to identify a half as a symbol in the environment. For example at the Butchery, cereals shop and hotel menu.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to form a whole using halves
SUB-STRAND FRACTIONS	**Key Inquiry Question:** How do you use parts to form a whole? **Suggested Learning Resources:** Paper cut-outs of different sizes, felt pens, manila paper, glue , masking tape

Introduction

Learners to answer questions on how to form wholes using different parts.

Development

Teacher Activities	**Demonstrate:** Show learners how to form a whole using halves of circular paper cut-outs by pairing and sticking on paper.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to form wholes from halves of circular paper cut-outs by pairing and sticking on a manila paper.
Learner Activities	Learners to do activities in pupil's book page 19.
Conclusion	Learners to display wholes formed from halves on the board.

Extended Learning; Learners to form wholes by combining halves of different colours and sizes from the environment.

ADDITION

Background Information

Addition of a 1 digit number to up to a 2-digit number without regrouping was covered in Grade One. Learners have also learnt how to work out missing numbers in patterns involving addition up to 100. This sub- strand will build on this knowledge to extend the addition of whole numbers. Learners will therefore be involved in the addition of up to two 2-digit numbers with regrouping from ones to tens. The teacher can search for digital games that involve addition and guide the learners in playing them.

The development of core competencies would be enhanced as learners work in purposive pairs or groups. The teacher should link the various components in the curriculum designs. These components include but are not limited to discussing issues like safety of materials being used (PCIs), values that can be nurtured such as unity, respect, patriotism and responsibility among others. The teacher should also involve learners in non-formal activities like planting flowers in patterns in school. The teacher may also discuss how the addition concept is linked to Environmental and Languages Activities. The teacher may organize visits to older citizen's homes for learners to assist them in working out the total number of different items in their homes as a way of extending learning outside the school.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to add a 2-digit number to a 1- digit number up to a sum of 50 horizontally and vertically.
SUB STRAND ADDITION	**Key Inquiry Question:** How do you add a 2-digit number to a 1-digit number? **Suggested Learning Resources,** Counters, basic addition table, universal cuff, multipurpose stamps, number communication board, page turners, pen/pencil grips, adapted LDDs/ ICT device, adapted writing materials, head/mouth pointer

Introduction

Learners to add a 2 -digit number to a 1 -digit number up to a sum of 20.

Development

Teacher Activities	**Write:** 23 + 5 = ☐ **Demonstrate:** Show learners how to add 5 to 23 by counting on, 5 steps from 23 as 24, 25, 26, 27, 28. 23 + 5 = 28 , also work out 23 + 5 = ☐ vertically.
Teacher and Learner Activities	**Write :** 32 + 4 = ☐ **Guide:** Learners in purposive pairs or groups to count forward 4 steps from 32 to get the answer.
Learner Activities	Learners to do activities in pupil's book page 20.
Conclusion	Learners to add a 2-digit number to a 1 – digit number up to a sum of 50 horizontally and vertically.

Extended learning Learners to practise addition by counting forward.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to add a 2-digit number to a 1- digit number without regrouping up to a sum of 100 horizontally.
SUB STRAND ADDITION	**Key Inquiry Question:** How do you add a 2-digit number to a 1- digit number? **Suggested Learning Resources:** Counters, basic addition table, universal cuff, multipurpose stamps, number communication board, page turners, pen/pencil grips, adapted LDDs/ ICT device, adapted writing materials, head/mouth pointers

Introduction
Learners to add a 2-digit number to a 1-digit number up to a sum of 50.

Development

Teacher Activities	**Write:** 52 + 6 = ☐ **Demonstrate:**Show learners how to add 6 to 52 by counting on, 6 steps from 52 as 53, 54, 55, 56, 57, 58. 52 + 6 = 58
Teacher and Learner Activities	**Write:** 73+ 4 = ☐ **Guide:** Learners in purposive pairs or groups to count forward 4 steps from 73 to get the answer.
Learner Activities	Learners to do activities in pupil's book page 21.
Conclusion	Learners to add a 2-digit number to a 1-digit number without regrouping up to a sum of 100 horizontally.

Extended learning : Learners to practise addition by counting forward with their family members..

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to add a 2-digit number to a 1- digit number without regrouping up to a sum of 100 vertically.
SUB -STRAND ADDITION	**Key Inquiry Question;** How do you add a 2-digit number to a 1- digit number? **Suggested Learning Resources:** Counters, basic addition table, place value apparatus, universal cuff, multipurpose stamps, number communication board,page turners, pen/pencil grips, adapted LDDs/ ICT device, adapted writing materials, head/mouth pointers

Introduction

Learners to add a 2- digit number to a 1 -digit number up to a sum of 50.

Development

Teacher Activities	**Write:** 86 + 3 = ☐ **Demonstrate:** Show learners how to write 86 + 3 according to place value. Add 3 ones to 6 ones to get 9 ones, write 9 in the ones place. Bring down 8 in the tens place. Write the addition sentence. 86 + 3 89
Teacher Learner and Activities	**Write:** 64+ 5 = ☐ **Guide:** Learners in purposive pairs or groups to work out 64 + 5 vertically.
Learner Activities	Learners to do activities in pupil's book page 22.
Conclusion	Learners to add a 2-digit number to a 1 – digit number without regrouping up to a sum of 100 vertically.

Extended learning: Learners to practise addition with family members.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to add 3- single digit numbers.
SUB -STRAND ADDITION	**Key Inquiry Question:** How do you add single digit numbers? **Suggested Learning Resources:** Counters, basic addition table, universal cuff, multipurpose stamps, number communication board, page turners, pen/pencil grips, adapted LDDs/ ICT device, adapted writing materials, head/mouth pointers

Introduction: Learners to add 2-single digit numbers.

Development

Teacher Activities	**Write:** 3 + 2 + 4 = ☐ **Demonstrate:** Show learners how to add 3-single digit numbers by adding 3 + 2 = 5 and then 5 + 4 = 9.
Teacher and Learner Activities	**Write:** 5 + 1 + 3 = ☐ **Guide:** Learners in purposive pairs or groups to add the 3-single digit numbers.
Learner Activities	Learners to do activities in pupil's book page 23.
Conclusion	Learners to add 3-single digit numbers.

Extended learning: Learners to practise adding single digit numbers with the family members.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to add a 2-digit number to a 2- digit number without regrouping up to a sum of 50 horizontally.
SUB STRAND ADDITION	**Key Inquiry Question:** How do you add a 2-digit number to a 2- digit number? **Suggested Learning esources:** Counters, basic addition table, place value apparatus, universal cuff, multipurpose stamps, number communication board, page turners, pen/pencil grips,adapted LDDs/ ICT device, adapted writing materials, head/mouth pointers

Introduction

Learners to add a 2 -digit number to a 1 -digit number up to a sum of 50.

Development

Teacher Activities	**Write:** 23 + 15 = ☐ **Demonstrate:** Show learners how to add 23 + 15 = ☐ by adding 5 ones to 3 ones to get 8 ones. Add 1 ten to 2 tens to get 3 tens. Write 3 tens and 8 ones as 38. 23 + 15 = 38
Learner and Teacher Activities	**Write:** 32 + 14 = ☐ **Guide:** Learners in purposive pairs or groups to add 32 + 14
Learner Activities	Learners to do activities in pupil's book page 29.
Conclusion	Learners to add a 2-digit number to a 2-digit number without regrouping up to a sum of 50 horizontally.

Extended learning: Learners to practise addition of up to 2-digit numbers with family members.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to add a 2-digit number to a 2-digit number without regrouping up to a sum of 50 vertically.
SUB STRAND ADDITION	**Key Inquiry Question:** How do you add a 2-digit number to a 2- digit number? **Suggested Learning Resources:** Counters, basic addition facts table, place value apparatus, universal cuff, multipurpose stamps, number communication board, page turners, pen/pencil grips, adapted LDDs/ ICT device, adapted writing materials, head/mouth pointer

Introduction

Learners to add a 2-digit number to a 1-digit number up to a sum of 50.

Development

Teacher Activities	**Write:** 34 + 13 —— **Demonstrate:** Show learners how to add the ones as 4 + 3 = 7 ones and tens as 3 + 1 = 4 tens. Emphasize that 7 is written in the ones place and 4 in the tens place. 34 +13 47

Teacher and Learner Activities	**Write:** 22 + 11 = ☐ **Guide:** Learners in purposive pairs or groups to add 22 +11 ___
Learner Activities	Learners to do activities in pupil's book page 25.
Conclusion	Learners to add a 2-digit number to a 2-digit number without regrouping up to a sum of 50 vertically.

Extended learning: Learners to practise addition of up to 2-digit numbers with family members.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to work out missing numbers in patterns involving addition up to 20.
SUB- STRAND ADDITION	**Key Inquiry Question:** How do you work out missing numbers in patterns? **Suggested Learning Resources:** Counters, adapted LDDs/ ICT devices, pen/pencil grips, multipurpose communication board, book holders, page turners

Introduction

Learners to add single digit numbers.

Development

Teacher Activities	**Write:** The pattern 6, 9, 12, _____, 18. **Demonstrate:** Show learners how to work out the missing number in the pattern 6, 9, 12, _____, 18 by adding 3 to a number to get the next number; 6 + 3 =9, 9 + 3 =12, 12 + 3 = 15, 15 + 3 = 18. The missing number is 15. The pattern is 6,9,12,15,18
Teacher and Learner Activities	**Write:** The pattern 11, 13, 15, ___, ___. **Guide:** Learners in purposive pairs or groups to work out missing numbers in patterns 11, 13, 15, ___, ___.
Learner Activities	Learners to do activities in pupil's book page 26.
Conclusion	Learners to work out missing numbers in patterns up to 20.

Extended learning: Learners to practise working out missing numbers in pattern with family members.

SUBTRACTION

Background Information

Subtraction was introduced in Grade One through practical activities as taking away. In Grade Two, subtraction of a 1 digit number from a 2-digit number based on basic addition facts is covered. The relationship between addition and subtraction as well as number patterns involving subtraction is also covered in Grade One. It is on this pre-requisite that the concept of subtraction of up to 2-digit numbers is developed. Missing numbers in patterns involving subtraction of up to 100 will also be taught under this sub strand. Teachers are encouraged to involve learners in playing digital games on subtraction.

The development of core competencies would be enhanced as learners work in purposive pairs or groups. The teacher should link the various components in the curriculum designs. These components include but are not limited to discussing issues like safety of materials being used (PCIs), values that can be nurtured such as unity, respect, patriotism and responsibility among others. The teacher should also involve learners in non-formal activities like collecting litter in the school compound. The teacher may also discuss how the subtraction concept is linked to Languages and Environmental Activities. Learners may participate in cleaning the environment organized by community members as a way of promoting learning outside the school.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to subtract 2-single digit numbers horizontally.
SUB STRAND SUBTRACTION	**Key Inquiry Question:** How do you subtract single digit numbers? **Suggested Learning Resources:** Counters, universal cuff, multipurpose stamps number , communication board, page turners, pen/pencil grips, adapted LDDs/ ICT device, adapted writing materials, head/mouth pointers

Introduction

Learners to count or point or sign numbers 1 to 20.

Development

Teacher Activities	**Write**: 7 - 4 = ☐ **Demonstrate:** Show learners how to subtract 7 - 4 by counting 4 steps backwards from 7 as 6, 5, 4, 3. 7 – 4 = **3**
Teacher and Learner Activities	**Write:** 8 - 2 = ☐ **Guide:** Learners in purposive pairs or groups to work out 8 - 2 = ☐
Learner Activities	Learners to do activities in the pupil's book page 27.
Conclusion	Learners to work out subtraction of 2-single digit numbers horizontally.

Extended learning : Learners to practise subtraction of single digit numbers with family members.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to subtract 2-single digit numbers vertically.
SUB STRAND SUBTRACTION	**Key Inquiry Question:** How do you subtract single digit numbers? **Suggested Learning Resources:** Counters, number line, universal cuff, multipurpose stamps, number communication board, page turners, pen/pencil grips, adapted LDDs/ ICT device, adapted writing materials, head/mouth pointers

Introduction

Learners to count or sign or point numbers 1 to 20.

Development

Teacher Activities	**Write**: 9 - 5 ___ **Demonstrate:** Show learners how to work out 9 – 5 using a number line by starting at 9 and moving 5 steps backwards to get to 4. 9 – 5 4

Teacher and Learner Activities	**Write :** 6 - 4 _____ **Guide:** Learners in purposive pairs or groups to work out 6 - 4 _____
Learner Activities	Learners to do activities in pupil's book page 28.
Conclusion	Learners to subtract 2-single digit numbers vertically.

Extended learning: Learners to practise subtraction of 2-single digit numbers with family members.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to subtract a 1-digit number from a 2-digit number horizontally.
SUB STRAND SUBTRACTION	**Key Inquiry Question:** How do you subtract a 1-digit number from a 2-digit number? **Suggested Learning Resources:** Counters, universal cuff, multipurpose stamps, number communication board, page turners, pen/pencil grips, adapted LDDs/ ICT device, adapted writing materials, head/mouth pointers

Introduction

Learners to subtract multiples of 10 up to 50.

Development

Teacher Activities	**Write**: 13 – 8 = ☐ **Demonstrate:** Show learners how to work out 13 – 8 = ☐ by breaking apart 8 as 3 and 5 then subtracting 3 from 13 to make a ten and subtract 5 from 10 to get 5. 13 – 8 = 13 – 3 – 5 then 10 – 5 = 5 Therefore 13 - 8 = **5**
Teacher and Learner Activities	**Write**: 82 - 7 = ☐ **Guide:** Learners in purposive pairs or groups to work out 82 - 7 by breaking apart.
Learner Activities	Learners to do activities in pupil's book page 29.
Conclusion	Learners to subtract a 1-digit number from a 2-digit number by breaking apart.

Extended learning: Learners to practise subtraction of a 1-digit number from a 2-digit numer with family members.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to subtract a 1-digit number from a 2-digit number without regrouping vertically.
SUB STRAND SUBTRACTION	**Key Inquiry Question:** How do you subtract a 1-digit number from a 2-digit number? **Suggested Learning Resources:** Universal cuff, multipurpose stamps number , communication board,page turners, pen/pencil grips, adapted LDDs/ ICT device, adapted writing materials, head/ mouth pointers, counters, place value apparatus

Introduction

Learners to subtract single digit numbers.

Development

Teacher Activities	**Write**: 58 - 5 _____ **Demonstrate:** Show learners how to work out 58 - 5 _____ by first subtracting 5 ones from 8 ones to get 3 ones, then write 3 in the ones place. Explain to the learners to bring down 5 in the tens place. 58 - 5 53

Teacher and Learner Activities	**Write**: 66 - 3 _____ _____ **Guide:** Learners in purposive pairs or groups to work out 66 - 3 _____
Learner Activities	Learners to do activities in pupil's book page 30.
Conclusion	Learners to subtract a 1-digit number from a 2-digit number without regrouping vertically.

Extended learning: Learners to practise subtraction of a1-digit number from a 2-digit number with family members.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to subtract 2-single digit numbers using the relationship between addition and subtraction.
SUB STRAND SUBTRACTION	**Key Inquiry Question:** How do you work out subtraction using the relationship between addition and subtraction? **Suggested Learning Resources:** Counters,universal cuff, multipurpose stamps, number communication board, page turners, pen/pencil grips, adapted LDDs/ ICT device, adapted writing materials, head/mouth pointers

Introduction
Learners to add and subtract single digit numbers.

Development

Teacher Activities	**Write**: 9 - 2 = ☐ **Demonstrate:** Show learners how to work out 9 - 2 by counting on from 2 up to 9 as; 3, 4, 5, 6, 7, 8, 9. Explain to the learners that there are 7 steps from 2 to 9. Therefore the missing number is 7. 2+ **7** = 9 9 - 2 = **7**
Teacher and Learners Activities	**Write:** 4 - 1 = ☐ **Guide:** Learners in purposive pairs or groups to work out 4 - 1 = ☐
Learner Activities	Learners to do activities in pupil's book page 31.
Conclusion	Learners to subtract 2-single digit numbers using the relationship between addition and subtraction.

Extended learning: Learners to practise subtraction of single digit numbers using the relationship between addition and subtraction with family members.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to work out missing numbers in subtraction of single digit numbers.
SUB STRAND SUBTRACTION	**Key Inquiry Question:** How do you work out missing numbers in subtraction **Suggested Learning Resources:** Counters,universal cuff, multipurpose stamps, number communication board, page turners, pen/pencil grips, adapted LDDs/ ICT devices, adapted writing materials, head/mouth pointers

Introduction

Learners to add and subtract single digit numbers.

Development

Teacher Activities	**Write:** ☐ - 3 = 5 **Demonstrate**: Show learners how to work out the missing number by adding the two numbers in the subtraction sentence as 3 + 5 = 8. Explain to the learners that 3, 5 and 8 make a number family of 8. The missing number is 8. 8 - 3 = 5
Teacher and Learner activities	**Write:** ☐ - 6 = 1 **Guide:** Learners in purposive pairs or groups to work out ☐ - 6 = 1.
Learner Activities	Learners to do activities in pupil's book page 32.
Conclusion	Learners to work out missing numbers in subtraction of single digit numbers.

Extended learning: Learners to practise working out missing numbers in subtraction with family members.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to work out missing numbers in subtraction of single digit numbers.
SUB STRAND SUBTRACTION	**Key Inquiry Question:** How do you work out missing numbers in subtraction? **Suggested Learning resources:** Counters, universal cuff, multipurpose stamps, number communication board, page turners, pen/pencil grips, adapted LDDs/ ICT device, adapted writing materials, head/mouth pointers

Introduction

Learners to add and subtract single digit numbers.

Development

Teacher Activities	**Write**: 8 - ☐ = 6 **Demonstrate:** Show learners how to work out the missing number by subtracting the smaller number from the bigger number as 8 – 6 = 2. Explain to the learners that 2, 6 and 8 make a number family of 8. The missing number is 2. Therefore 8 - ☐2 = 6
Teacher and Learner Activities	**Write:** 5 - ☐ = 1 **Guide:** Learners in purposive pairs or groups to work out 5 - ☐ =1.
Learner Activities	Learners to do activities in pupil's book page 33.
Conclusion	Learners to work out missing numbers in subtraction of single digit numbers.

Extended learning: Learners to practise working out missing numbers in subtraction with family members.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able work out missing numbers in patterns involving subtraction from 1up to 20.
SUB STRAND SUBTRACTION	**Key Inquiry Question:** How do you work out missing numbers in patterns? **Suggested Learning Resources:** Counters,universal cuff, multipurpose stamps, number communication board, page turners, pen/pencil grips, adapted LDDs/ ICT devices, adapted writing materials, head/mouth pointers,

Introduction

Learners to subtract single digit numbers.

Development

Teacher Activities	**Write:** The pattern 19, 16, 13, _____. **Demonstrate:** Show learners how to work out the missing number in the pattern 19, 16, 13, _____by subtracting 3 from a number to get the next number; 19 - 3 =16. 16 - 3 =13 13- 3 = 10 The missing number is 10. The pattern is 19, 16, 13, 10.
Teacher and Learner Activities	**Write:** The pattern 13, 11, 9, ___ . **Guide:** Learners in purposive pairs or groups to work out missing numbers in patterns 13, 11, 9, ___ .
Learner Activities	Learners to do activities in pupil's book page 34.
Conclusion	Learners to work out missing numbers in patterns from 1 up to 20.

Extended learning: Learners to practice working out missing numbers in patterns in school and at home.

MULTIPLICATION

Background Information

Multiplication is introduced in this level as repeated addition. In the modeling of these activities, the learners form groups with equal number of objects, then put them together and count to get the total number which is the answer to a multiplication question. The multiplication (×) sign is introduced in this grade. It is hoped that the teacher will use equal groups of objects a number of times to relate repeated addition with multiplication sentences. It is important to emphasize that the number of groups represent the first factor in the multiplication sentence while the other number represents the number of items in each of the groups.

The concept of repeated addition is further developed in this sub strand where learners are expected to multiply single digit numbers by numbers up to 10. Digital games on multiplication should be included to make the lesson interesting and for learners to link multiplication to everyday activities.

The development of core competencies would be enhanced as learners work in purposive pairs or groups. The teacher should link the various components in the curriculum designs. These components include but are not limited to discussing issues like safety of materials being used (PCIs), values that can be nurtured such as unity, respect, patriotism and responsibility among others. The teacher should also involve learners in non-formal activities like working out the total number of desks in their classroom through repeated addition. The teacher may also discuss how the multiplication concept is linked to Languages and Environmental Activities .Learners may visit older citizens and assist them in arranging items in groups of equal numbers as a way of promoting learning outside the school.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to model multiplication as repeated addition up to 2 times.
SUB STRAND MULTIPLICATION	**Key Inquiry Question:** How do you get the total number of objects in two groups? **Suggested Learning Resources:** Counters, multipurpose stamp, head/ mouth pointers,page turners, book holders, or clips, multipurpose communication board, adapted LDDs/ICT devices, univresal cuff

Introduction
Learners to add single digit numbers.

Development

Teacher Activities	**Draw:** Δ and Δ is ΔΔ **Demonstrate:** Show learners how to get the total number of objects by putting the two groups of objects together and writing the repeated addition as Δ and Δ is ΔΔ 1 + 1 = 2
Teacher and learner Activities	**Draw:** ΔΔ and ΔΔ is ΔΔΔΔ **Guide:** Learners in purposive pairs or groups to get the total number of objects in the two groups as ΔΔ and ΔΔ is ΔΔΔΔ 2 + 2 = 4
Learner Activities	Learners to do activities in pupil's book page 35.
Conclusion	Learners to model multiplication as repeated addition up to 2 times.

Extended learning : Learners to practise modelling multiplication as repeated addition up to 2 times with family members.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to model multiplication as repeated addition up to 3 times.
SUB STRAND MULTIPLICATION	**Key Inquiry Question:** How do you get the total number of objects in three groups? **Suggested Learning Resources:** Counters multipurpose stamp, head/mouth pointers, page turners, book holders, or clips, multipurpose communication board, adapted LDDs/ICT devices, univresal cuff

Introduction

Learners to add single digit numbers.

Development

Teacher Activities	**Draw :** Δ and Δ and Δ is ΔΔΔ **Demonstrate:** Show learners how to get the total number of objects by putting the three groups of objects together and writing the repeated addition as Δ and Δ and Δ is ΔΔΔ 1 + 1 + 1 = 3
Teacher and learner Activities	**Draw:** ΔΔ and ΔΔ and ΔΔ is ΔΔΔΔΔΔ **Guide:** Learners in purposive pairs or groups to get the total number of objects in the three groups as ΔΔ and ΔΔ and ΔΔ is ΔΔΔΔΔΔ 2 + 2 + 2 = 6
Learner Activities	Learners to do activities in pupil's book page 36.
Conclusion	Learners to model multiplication as repeated addition up to 3 times.

Extended learning Learners to discuss with their parents how to put groups of objects together.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to model multiplication as repeated addition up to 4 times.
SUB STRAND MULTIPLICATION	**Key Inquiry Question:** How do you get the total number of objects in four groups? **Suggested Learning Resources:** Counters, multipurpose stamp, book holders, multipurpose communication board, adapted LDDs/ICT devices, universal cuff

Introduction
Learners to add single digit numbers.

Development

Teacher Activities	**Draw:** [Δ Δ] and [Δ Δ] and [Δ Δ] and [Δ Δ] is [Δ Δ Δ ΔΔ Δ Δ Δ] **Demonstrate:** Show learners how to get the total number of objects by putting the four groups of objects together and writing the repeated addition as [ΔΔ] and [ΔΔ] and [ΔΔ] and [ΔΔ] is [Δ ΔΔΔ ΔΔΔΔ] 2 + 2 + 2 + 2 = [8]
Teacher and learner Activities	**Draw:** [Δ Δ] and [Δ Δ] and [Δ Δ] and Δ Δ is [Δ Δ ΔΔ ΔΔ Δ Δ] **Guide:** Learners in purposive pairs or groups to get the total number of objects in the four groups and write the repeated addition.
Learner Activities	Learners to do activities in pupil's book page 38-39.
Conclusion	Learners to model multiplication as repeated addition up to 4 times,

Extended learning: Learners to discuss with their parents how to put groups of objects together.
Learners with speech difficulties could sign or type or write. Peers could also report their views. Apply these adaptations in all activitis where speech is required under this strand.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to model multiplication as repeated addition up to 5 times.
SUB STRAND MULTIPLICATION	**Key Inquiry Question:** How do you get the total number of objects in five groups? **Suggested Learning Resources:** Counters, multipurpose stamp, head/ mouth pointers, page turners, book holders or clips, multipurpose communication board, adapted LDDs/ICT devices, univresal cuff.

Introduction

Learners to add single digit numbers.

Development

Teacher Activities	**Draw:** ΔΔΔ and ΔΔΔ and ΔΔΔ and ΔΔΔ and ΔΔΔ is Δ Δ Δ ΔΔ Δ Δ Δ ΔΔ Δ Δ Δ ΔΔ **Demonstrate:** Show learners how to get the total number of objects by putting the five groups of objects together and writing the repeated addition as ΔΔΔ and ΔΔΔ and ΔΔΔ and ΔΔΔ and ΔΔΔ is Δ Δ Δ ΔΔ Δ Δ Δ ΔΔ Δ Δ Δ ΔΔ 3 + 3 + 3 + 3 + 3 = 15

Teacher and learner Activities	**Draw:** ΔΔΔΔΔ and ΔΔΔΔΔ and ΔΔΔΔΔ and ΔΔΔΔΔ and ΔΔΔΔΔ is ΔΔΔΔΔΔΔΔΔΔΔΔΔ ΔΔΔΔΔΔΔ ΔΔΔΔΔ **Guide:** Learners in purposive pairs or groups to get the total number of objects in the five groups and write the repeated addition.
Learner Activities	Learners to do activities in pupil's book page 40-41.
Conclusion	Learners to model multiplication as repeated addition up to 5 times.

Extended learning: Learners to discuss with their family members multiplication as repeated addition.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to write repeated addition as multiplication,using the sign **'x'.**
SUB-STRAND MULTIPLICATION	**Key Inquiry Question:** How do you write repeated addition as multiplication using the sign **'x'**? **Suggested Learning Resources**: Counters, multipurpose stamp, head/ mouth pointers, page turners, book holders, or clips, multipurpose communication board, adapted LDDs/ICT devices, universal cuff

Introduction

Learners to add single digit numbers.

Development

Teacher Activities	**Draw:** ΔΔΔΔ and ΔΔΔΔ 4 + 4 **Demonstrate:** Show learners how to write repeated addition as multiplication using ΔΔΔΔ and ΔΔΔΔ 4 + 4 Explain that there are 2 groups each with 4 objects and this is written as 2 x 4. Emphasize that the first number in the multiplication represents the number of groups and the second number represents the number of objects in each group. Therefore 4 + 4 is same as 2 fours written as 2 x 4.
Teacher and Learner Activities	**Draw:** Δ Δ and Δ Δ and Δ Δ and is ΔΔΔΔΔ **Guide:** Learners in purposive pairs or groups to write the repeated addition as multiplication using the sign **'x'**
Learner Activities	Learners to do activities in pupil's book page 42-43.
Conclusion	Learners to write repeated addition as multiplication using the sign **'x'**.

Extended Learning: Learners to practise how to write repeated addition as multiplication in school and at home.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to write multiplication sentences from repeated addition.
SUB-STRAND MULTIPLICATION	**Key Inquiry Question:** How do you write multiplication sentence from repeated addition? **Suggested LearningResources:** Counters, multipurpose stamp, head/mouth pointers, page turners, book holders, or clips, multipurpose communication board, adapted LDDs/ICT devices, universal cuffs

Introduction

Learners to add single digit numbers.

Development

Teacher Activities	**Draw:** ΔΔΔ and ΔΔΔ is ΔΔΔΔΔΔ **Demonstrate:** Show learners how to write a multiplication sentence from the repeated addition as ΔΔΔ and ΔΔΔ is ΔΔΔΔΔΔ 3 + 3 = 6 Explain that there are 2 groups each with 3 objects and this is written as 2 x 3 = 6. Emphasize that the first number in the multiplication represents the number of groups and the second number represents the number of objects in each group. Therefore 3 + 3 = 6 is the same as 2 threes written as 2 x 3 = 6.
Teacher and Learner Activities	**Draw:** Δ Δ and Δ Δ and Δ Δ is ΔΔΔΔΔΔ 2 + 2 + 2 = 6 **Guide:** Learners in purposive pairs or groups to write multiplication sentences from repeated addition.

Learner Activities	Learners to do activities in pupils book page 44.
Conclusion	Learners to write multiplication sentences from repeated addition.

Extended learning: Learners to practise how to write multiplication sentence from repeated addition with their family members.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to multiply single digit numbers by 1.
SUB STRAND MULTIPLICATION	**Key Inquiry Question:** How do you multiply single digit numbers by 1? **Suggested Learning Resources:** Counters, multipurpose stamp, head/mouth pointers, page turners, book holders or clips, multipurpose communication board, adapted LDDs/ICT devices, universal cuff

Introduction

Learners to add single digit numbers.

Development

Teacher Activities	**Draw:** ΔΔ 1 group of 2 objects. **Demonstrate:** Show learners that 1 group of 2 objects is written as 1 x 2 and to write the multiplication sentence 1 x 2 = 2.
Teacher and Learner Activities	**Draw:** ΔΔΔΔΔΔ 1 group of 6 objects **Guide:** Learners in purposive pairs or groups to multiply single digit numbers by 1.
Learner Activities	Learners to do activities in pupil's book page 45.
Conclusion	Learners to multiply single digit numbers by 1

Extended learning: Learners to practise how to multiply single digit numbers by 1 with family members.

MEASUREMENT

GENERA LEARNING OUTCOME
The learner should be able to apply measurement skills to final solution to problems in a variety of context

LENGTH

Background Information

The development of the concepts under measurements follows clearly defined stages. In earlier grades, under the sub strand on length, learners compare lengths of objects directly, measure length using arbitrary units and finally measure length using fixed arbitrary units. In this sub-strand learners will be expected to identify the metre as a unit of measuring length and measure length in metres. The teacher should therefore involve learners in measuring activities using the metre stick.

The development of core competencies would be enhanced as learners work in purposive pairs or groups. The teacher should link the various components in the curriculum designs. These components include but are not limited to discussing issues like safety of materials being used (PCIs), values that can be nurtured such as unity, respect, patriotism and responsibility among others. The teacher should also involve learners in non-formal activities like measuring lengths of fields in school during games. The teacher may also discuss how the length concept is linked to Languages and Environmental Activities. Learners may assist their neighbours to measure length during building of chicken or rabbit cages among others as a way of promoting learning outside the classroom.

STRAND MEASUREMENT	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to measure length using fixed units.
SUB-STRAND LENGTH	**Key Inquiry Question:** How can you measure length? **Suggested Learning Resources:** Pencils of same length, multipurpose stamp, head/mouth pointers, number stamps, universal cuff,book holders, page turners, pen/pencil grips, communication board, adapted LDDs, masking tapes

Introduction
Learners to measure length using arbitrary units.

Development

Teacher Activities	**Demonstrate:** Show learners how to measure the length of teacher's table using a pencil. **Write:** The length of the teacher's table in number of pencils.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to measure other lengths using pencils of equal length. Learners to share their findings with other groups.
Learner Activities	Learners to do activities in pupil's book page 46. For these activities and conclusions respectively , the adaptation below apply.
Conclusion	Learners to measure other lengths using pencils in the classroom.

Extended Learning: Learners to measure length of objects using fixed units at home. Learners with motor difficulties and those with missing limbs could use alternative functional part of their body, approriately assistive devices with assistance where necessary.

NOTE: The adaptation made in these learning activities apply to all subsequent learning activities under Length, Mass,Capacity,Time and Money.

STRAND MEASUREMENT	**Specific Lesson Learning Outcome** By the end of the lesson the learner should be able to measure length using fixed units.
SUB-STRAND LENGTH	**Key Inquiry Question:** How can you measure length? **Suggested Learning Resources:** Stick, classroom wall, multipurpose stamp, head/mouth pointers, number stamps, universal cuff, book holders, page turners, pen/pencil grips, communication board, adapted LDDs, masking tapes

Introduction

Learners to name or point or sign items that could be used to measure length.

Development

Teacher Activities	**Demonstrate:** Show learners how to measure the length of classroom wall using a stick. **Write:** The length of the classroom wall in terms of the number of sticks.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to measure other lengths using sticks of equal length. Learners to share their findings.
Learner Activities	Learners to do the activities in the pupil's book page 47.
Conclusion	Learners to measue length of other objects in the classroom.

Extended Learning: Learners to measure the length of objects using sticks in the environment.

MASS

Background Information

The development of the concepts under measurements follows clearly defined stages. In earlier grades, under the sub-strand on mass, learners compare mass of objects directly, measure mass using arbitrary units and finally measure mass using fixed arbitrary units.

In this sub strand learners will be expected to identify the kilogram as a unit of measuring mass and measure mass in kilograms. The teacher should therefore involve learners in making 1 kilogram mass using a beam balance.

The development of core competencies would be enhanced as learners work in purposive pairs or groups. The teacher should link the various components in the curriculum designs. These components include but are not limited to discussing issues like safety of materials being used (PCIs), values that can be nurtured such as unity, respect, patriotism and responsibility among others. The teacher should involve learners in non-formal activities like measuring mass of items in their classroom in kilograms during their free time. The teacher may also discuss how the concept of mass is linked to Languages and Environmental Activities. Learners may assist their neighbours in measuring mass of items in their homes in kilograms as a way of promoting learning outside the classroom.

STRAND MEASUREMENT	**Specific Lesson Learning Outcome** By the end of the lesson the learner should be able to measure mass using fixed units.
SUB-STRAND MASS	**Key Inquiry Question:** How can you measure the mass of an object? **Suggested Learning Resources:** Beam balance, mathematics textbooks, stones, bag, sand, multipurpose stamp, head/mouth pointers, number stamps, universal cuff, book holders, page turners, pen/pencil grips, communication board, adapted LDDs, masking tapes

Introduction

Learners to compare mass of objects in the classroom using heavier than, lighter than or same as.

Development

Teacher Activities	**Demonstrate:** Using a beam balance**, s**how learners how to measure the mass of a block of wood using mathematics textbooks **Write:** The mass of the block of wood in terms of the textbooks.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to measure the mass of different objects in the classroom using mathematics textbooks. Learners to share their findings with other groups.
Learner Activities	Learners to do activities in pupil's book page 48.
Conclusion	Learners to measure the mass of objects in the classroom using mathematics textbooks.

Extended Learning: Learners to measure the mass of objects in the environment using fixed units. Safety precaution measures should be observed for learners with brittle ,asthma, juvenile rheumatoid athritis when carrying out the activities by giving them lighter activities according to their ability.

STRAND MEASUREMENT	**Specific Lesson Learning Outcome** By the end of the lesson the learner should be able to measure mass using fixed units.
SUB-STRAND MASS	**Key Inquiry Question:** How can you measure the mass of an object? **Suggested Learning Resources:** Beam balance, coins, potato, rubber, chalk, stick, multipurpose stamp, head/mouth pointers, number stamps, universal cuff, book holders, page turners, pen/pencil grips, communication board, adapted LDDs/ICT devices, masking tapes

Introduction

Learners to give the mass of the objects measured using mathematics textbooks.

Development

Teacher Activities	**Demonstrate:** Using beam balance, show learners how to measure the mass of an exercise book using coins. **Write:** The mass of the exercise book in terms of coins.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to measure the mass of different objects in the classroom using coins and beam balance. Learners to share their findings with other groups.
Learner Activities	Learners to do activities in pupil's book page 49.
Conclusion	Learners to measure the mass of other objects in the classroom using coins

Extended Learning: Learners to measure the mass of objects in the environment using fixed units.

CAPACITY

Background Information

The development of the concepts under measurements follow clearly defined stages. In earlier grades, under the sub strand on capacity, learners compare capacity of containers directly through filling and emptying using water, measure capacity of containers using arbitrary units and finally measure capacity of containers using fixed arbitrary units. In this sub-strand learners will be expected to identify the litre as a unit of measuring capacity and measure capacity in litres. The teacher should therefore involve learners in measuring activities using 1 litre container.

The development of core competencies would be enhanced as learners work in purposive pairs or groups. The teacher should link the various components in the curriculum designs. These components include but are not limited to discussing issues like safety of materials being used (PCIs), values that can be nurtured such as unity, respect, patriotism and responsibility among others. The teacher should involve learners in non-formal activities like measuring capacity of containers in their classroom in litres during their free time. The teacher may also discuss how capacity is linked to Languages and Environmental Activities. As a way of promoting learning outside the classroom, learners may assist their neighbours at home in measuring capacity of containers used for storing liquids.

STRAND MEASUREMENT	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to measure capacity using fixed units.
SUB-STRAND CAPACITY	**Key Inquiry Question:** How can you measure the amount of water a container can hold? **Suggested Learning Resources:** Cup, basin, water, bucket, jug, sufuria, multipurpose stamp, head/mouth pointers, number stamps, universal cuff, book holders, page turners, pen/pencil grips, communication board, adapted LDDs/ ICT devices, masking tapes

Introduction

Learners to share orally or point or sign experiences on filling containers.

Development

Teacher Activities	**Demonstrate:** Show learners how to find out the number of cups full of water that fill a basin. **Write:**The number of cups that fill the basin.
Teacher and **Learner Activities**	**Guide:** Learners in purposive pairs or groups to find the number of cups of water that fill given containers. Learners to share their findings with the other groups.
Learner Activities	Learners to do activities in pupil's book page 50.
Conclusion	Learners to measure the capacity of other containers in the classroom using cups.

Extended Learning: Learners to practise measuring the capacity of containers in the environment using other containers.

STRAND MEASUREMENT	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to measure capacity using fixed units.
SUB-STRAND CAPACITY	**Key Inquiry Question:** How can you find the amount of water a container can hold? **Suggested Learning Resources:** Bottle, basin, water, bucket, jug, sufuria, jerrycan, multipurpose stamp, head/mouth pointers, number stamps, universal cuff, book holders, page turners, pen/pencil grips, communication board, adapted LDDs/ICT devices, masking tapes

Introduction

Learners to share orally or point or sign experiences on filling of containers.

Development

Teacher Activities	**Demonstrate:** Show learners how to find out the number of bottles full of water that fill a basin. **Write:** The number of bottles that fill the basin.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to find the number of bottles of water that fill given containers. Learners to share their findings with the other groups.
Learner Activities	Learners to do activities in pupil's book page 51.
Conclusion	Learners to discuss how to measure the capacity of a container using a bottle.Learners with speech difficulties could use residual speech or sign or point or use communication board. Peers could also report their views or be assisted by teacher or teacher aide. **(Apply this adaptations to all subsequent activities where speech is required under capacity ,time and money sub strands).**

Extended Learning: Learners to practise measuring the capacity of containers in the environment by using smaller containers.

STRAND MEASUREMENT	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to measure capacity using fixed units.
SUB-STRAND CAPACITY	**Key Inquiry Question:** How can you measure the amount of water a container can hold? **Suggested Learning Resources:** Tin, basin, water, bucket, jug, sufuria, jerrycan multipurpose stamp, head/mouth pointers, number stamps, universal cuff, book holders, page turners, pen/pencil grips, communication board, adapted LDDs/ ict devices, masking tapes

Introduction

Learners to share orally or sign or point experiences on filling of containers

Development

Teacher Activities	**Demonstrate**: Show learners how to find out the number of tins full of water that fill a basin. **Write**: The number of tins that fill the basin.
Teacher and **Learner Activities**	**Guide: L**earners in purposive pairs or groups to find the number of tins of water that fill given containers. Learners to share their findings with the other groups.
Learner Activities	Learners to do activities in pupil's book page 52.
Conclusion	Learners to state the steps in finding the amount of water a container can hold using a tin.

Extended Learning: Learners to measure the capacity of containers in the environment by using other smaller containers.

TIME

Background Information

The concept of time is introduced by relating daily activities to different times of the day like morning, noon, evening and night while the days and months of the year are related to the various activities done in a particular day or month. Time just like other measurements is first measured using arbitrary units before using the standard units that is hours, minutes and seconds. In this sub-strand, learners will be introduced to the clock face as well as read and tell time by the hour using both the analogue and digital clocks.

The development of core competencies would be enhanced as learners work in purposive pairs or groups. The teacher should link the various components in the curriculum designs. These components include but are not limited to discussing issues like safety of materials being used (PCIs), values that can be nurtured such as unity, respect, patriotism and responsibility among others. The teacher should involve learners in non-formal activities like cleaning their classroom during free time. The teacher may also discuss how the time concept is linked to Environmental, Languages and Religious Activities. As a form of community service learning, learners could assist their neighbours in keeping their compounds clean during school holidays.

STRAND MEASUREMENT	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to identify months of the year.
SUB-STRAND TIME	**Key Inquiry Question:** How do you identify the time of the year? **Suggested Learning Resources:** Calendar, adapted LDDs/ICT devices, multipurpose stamp, head/mouth pointers, number stamps, universal cuff, book holders, page turners, pen/pencil grips, multiplipurpose communication board, masking tapes

Introduction

Learners to sing or hum or tap or sign or mime a song on the days of the week.

Development

Teacher Activities	**Demonstrate:** Using the calendar, show learners the months of the year. Play a digital song on the months of the year. **Write**: Read and write the months of the year on the board.
Teacher and **Learner Activities**	**Guide**: Learners in purposive pairs or groups to read and write the month's of the year. Lead learners in singing a song on the months of the year.
Learner Activities	Learners to do activities in pupil's book page 53.
Conclusion	Learners to sing or hum or tap or sign or mime a song on the months of the year.

Extended Learning: Learners to explore songs on months of the year from digital devices in the community. Learners with motor difficulties and those with missing limbs could use alternative adapted functional computers with appropriate softwareReduce light intensity (glare) for learners with epilepsy. (**Apply these adaptations in all subsequent activities involving the use of digital devices under time and money substrands).**

STRAND MEASUREMENT	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to relate the months of the year with various activities.
SUB-STRAND TIME	**Key Inquiry Question:** What activities take place in a year? **Suggested Learning Resources:** Calendar, adapted LDDs/ICTdevices, multipurpose stamp, head/mouth pointers, number stamps, universal cuff, book holders, page turners, pen/pencil grips, multipurpose communication board, masking tapes, stabilizers

Introduction

Learners to name or sign or point activities that take place in a year.

Development

Teacher Activities	**Demonstrate**:Show learners how to relate month of the year to various activities in school, at home and in the community. **Write**: The months and the corresponding activities.
Teacher and Learners Activities	**Guide**: Learners in purposive pairs or groups to relate months of the year with various activities. Learners to share their results with other groups.
Learner Activities	Learners to do activities in pupil's book page 54.
Conclusion	Learners to relate months of the year to events and activities in school, at home and in the community.

Extended Learning: Learners to relate the months of the year to activities at home and in the community.

STRAND MEASUREMENT	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to recite the number of days in each month of the year.
SUB-STRAND TIME	**Key Inquiry Question:** How do we tell the number of days in each month of the year? **Suggested Learning Resources:** Calendar,adapted LDDs/ICT devices, multipurpose stamp, multipurpose communication board, book holders, page turners, head/mouth pointers, universal cuffs, stabilizers

Introduction

Sing or hum or mime or sign a song on months of the year.

Development

Teacher Activities	**Demonstrate**: Using a calendar, show learners the number of days in each month of the year. Play a digital song on the number of days in each month of the year. **Write:** The months and the corresponding number of days.
Teacher and Learner Activities	**Guide**: Learners in purposive pairs or groups to identify the number of days for each month on the calendar. Learner to recite the number of days for each month of the year.
Learner Activities	Learners to do activities in pupil's book page 55.
Conclusion	Learners to sing songs or recite poems on the number of days in a month

Extended Learning: Learners to find out how the number of days in a month were identified at home and the community in the earlier days.

STRAND MEASUREMENT	**Specific Lesson Learning Outcome** By the end of the lesson the learner should be able to measure time using arbitrary units.
SUB-STRAND TIME	**Key Inquiry Question:** How can you tell how long an activity will take?
	Suggested Learning Resources: Chart of the National Anthem, adapted LDDs/ICT devices, multipurpose stamp, multipurpose communication board, book holders, page turners, head/mouth pointers, stabilizers

Introduction

Learners to sing or hum or mime or sign a familiar song while clapping.

Development

Teacher Activities	**Demonstrate**: Show learners how to time an activity through clapping at equal intervals. Sing the first stanza of the National Anthem as a learner counts the number of claps. **Write:** The number of claps.
Teacher and **Learner Activities**	**Guide**: Learners in purposive pairs or groups to sing the first stanza of the national anthem while clapping, tapping or thumb clicking at equal intervals. Learners to count the number of claps, taps or thumb clicks. Learners to share their results with other groups.
Learners Activities	Learners to do activities in pupil's book page 56.
Conclusion	Learners to sing the first stanza of the National Anthem while counting number of claps, taps and thumb clicks.

Extended Learning: Learners to practise timing activities by clapping, tapping and thumb click ing at home.

MONEY

Background Information

The teaching of money begins with the learners being guided to identify the different currency coins and notes. In Grade One learners perform shopping activities which lead to differentiating goods and services as well as needs and wants. In this sub-strand the money concept is developed further where learners are also taught about needs and wants as well as spending and saving which learners need to understand to be able to make meaningful decisions on money issues.

The development of core competencies would be enhanced as learners work in purposive pairs or groups. The teacher should link the various components in the curriculum designs. These components include but are not limited to discussing issues like safety of materials being used (PCIs), values that can be nurtured such as unity, honesty, responsibility among others. As a non-formal activity learners may assist the school clerk in sorting coins and notes according to their value. The teacher may also discuss how the money concept is linked to Languages, Environmental and Religious Activities. As a community service activity to support learning, learners may assist in counting money offered in religious and non-religious functions.

STRAND MEASUREMENT	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to identify Kenyan currency coins and notes up to sh.100.
SUB-STRAND MONEY	**Key Inquiry Question:** How do you identify Kenya currency?
	Suggested Learning Resources: Kenyan currency in coins and notes up to a hundred, multipurpose stamp, head/mouth pointers, number stamps, universal cuff, book holders,page turners, pen/pencil grips, communication board, adapted LDDs/ICT devices , stabilizers , masking tapes

Introduction

Learners to share or sign or point their experiences with money.

Development

Teacher Activities	**Demonstrate**: Show learners the features on the coins and notes of Kenyan currency. **Write:** The features of the coins and notes.
Teacher and Learners Activities	**Guide**: Learners in purposive pairs or groups to identify the features on the coins and notes of Kenyan currency. Learners to share the features identified with other groups.
Learner Activities	Learners to do the activities in the pupil's book page 57.
Conclusion	Learners to identify features on the coins and notes.

Extended learning: Learners to discuss the features of Kenyan currency with family members.

STRAND MEASUREMENT	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to sort Kenyan currency in coins and notes according to their value and features.
SUB-STRAND MONEY	**Key Inquiry Question:** How do you identify Kenyan currency? **Suggested Learning Resources:** Kenyan currency in coins and notes up to a hundred, multipurpose stamp, head/mouth pointers, number stamps, universal cuff, book holders, page turners, pen/pencil grips, communication board, adapted LDDs, masking tapes, stabilizers

Introduction

Learners to share or point or sign their experiences with money.

Development

Teacher Activities	**Demonstrate:** Show learners how to sort Kenyan currency coins and notes according to value and features.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to sort Kenyan currency in notes and coins according to value and features. Learners to share their work with other groups.
Learner Activities	Learners to do activities in pupil's book page 58.
Conclusion	Learners ask and answer questions on value and features of Kenyan currency.

Extended Learning: Learners to discuss the features of Kenyan currency with family members.

STRAND MEASUREMENT	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to count money in coins in values of; sh.1, sh.5, sh.10, sh.20, sh.40, and sh.50 up to sh.100
SUB-STRAND MONEY	**Key Inquiry Question:** How do you count money?
	Suggested Learning Resources: Kenyan currency in coins up to a hundred. multipurpose stamp, head/mouth pointers, number stamps, universal cuff, book holders, page turners, pen/pencil grips, communication board, adapted LDDs, masking tapes, stabilizers

Introduction
Learners to share or point or sign their experiences with money.

Development

Teacher Activities	**Demonstrate:** Using coins show learners how to count money.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to count and find the total amount of money. Learners to share their results with other groups.
Learner Activities	Learners to do activities in pupil's book page 59.
Conclusion	Learners to discuss how to count money.

Extended Learning: Learners to help in counting money at home and in the community.

STRAND MEASUREMENT	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to count money in coins and notes in values of; sh.1, sh.5, sh.10, sh.20, sh.40, and sh.50 up to sh.100.
SUB-STRAND MONEY	**Key Inquiry Question:** How do you count money?
	Suggested Learning Resources: Kenyan currency in coins and notes up to a hundred, multipurpose stamp, head/mouth pointers, number stamps, universal cuff, book holders, page turners, pen/pencil grips, multipurpose communication board, adapted LDDs, masking tapes

Introduction

Learners to share orally or point or sign their money.

Development

Teacher Activities	**Demonstrate:** Using coins and notes, show learners how to count money.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to count and find the total amount of money. Learners to share their results with other groups.
Learner Activities	Learners to do activities in pupil's book page 60.
Conclusion	Learners to discuss how to count money.

Extended Learning: Learners to help in counting money at home and in the community.

GEOMETRY

GENERAL LEARNING OUTCOME

The learner should be able to describe properties of geometrical shapes and spatial relationships in real life experiences.

LINES

Background Information

The learning of geometry starts with the learners modeling straight and curved lines. In Grade One, learners model these lines through different activities. In this sub-strand, the straight lines and curved lines concept is developed further.

The development of core competencies would be enhanced as learners work in purposive pairs or groups. The teacher should link the various components in the curriculum designs. These components include but are not limited to discussing issues like safety of materials being used (PCIs), values that can be nurtured such as unity, respect, patriotism and responsibility among others. The teacher should involve learners in non-formal activities like arranging seats in straight or curved formations in the classroom. The teacher may also discuss how the line concept is linked to Movement and Creative and Environmental Activities. As a community service activity to support learning, learners may assist in arranging seats in straight and curved formations in community functions.

STRAND GEOMETRY	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to identify straight and curved lines.
SUB-STRAND LINES	**Key Inquiry Question:** How do straight and curved lines look like? **Suggested Learning Resources:** A piece of rope, pieces of sticks, crayons, chalk, charcoal, materials with straight and curved edges, stabilizers, book holders, page turners, pen/pencil grips, multipurpose communication board, universal cuffs, adapted LDDs/ICT devices

Intrduction

Learners to answer questions orally or point or sign on their experiences with lines.

Development

Teacher Activities	**Demonstrate:** Explain the straight line formation of learners queuing to get into the bus and patients seated at a hospital bench. Explain the semi-circular formation of learners, teachers and a flagpost during assembly and the arrangement of water jerrycans.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups identify straight and curved lines in the environment.
Learner Activities	Learners to do activities in pupil's book page 61.
Conclusion	Learners to sing a song moving along a straight and a semi-circular formation.

Extended Learning: Learners to identify straight and curved lines in school, at home and in the community for example rivers, footpaths, roads with meanders and straight formations.

SHAPES

Background Information

Learners start interacting with different shapes found at home and also in the environment before they come to school. In school they start learning about shapes through the sorting and grouping activities. In Grade One learners also learnt how to make patterns using three shapes. In this sub-strand the concept of shapes is further developed and learners may pick it up and get involved in making patterns on cloths or belts as a business venture in their free time later in life.

The development of core competencies would be enhanced as learners work in purposive pairs or groups. The teacher should link the various components in the curriculum designs. These components include but are not limited to discussing issues like safety of materials being used (PCIs), values that can be nurtured such as unity, respect, patriotism and responsibility among others. The teacher should involve learners in non-formal activities like making patterns and sticking them on classroom walls for beauty. The teacher may also discuss how patterns are linked to Movement and Creative and Environmental Activities. Learners could visit children's homes and beautify their walls with patterns drawn on paper as a way of community service learning.

STRAND GEOMETRY	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to identify rectangles, circles and triangles.
SUB-STRAND SHAPES	**Key Inquiry Question:** How does rectangle, a circle and a triangle look like. **Suggested Learning Resources:** Paper cut out of rectangles, triangles and cicles, multipurpose communication board, book holders, page turners, pen/pencil grips, head /mouth pointers, stabilizres, universal cuff, adapted LDDs/ict devices

Introduction

Learners to share their experiences on circles, triangles and rectangles and draw them in the air.

Development

Teacher Activities	**Demonstrate:** Using paper-cut-outs, stick the circular, triangular and rectangular shapes on the board. Label the shapes.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups identify paper cut-outs of triangles, rectangles and circles. Paste them on a labeled chart.
Learner Activities	Learners to do activities in pupil's book page 63.
Conclusion	Learners to pick paper cut-outs with asorted shapes from a box and stick them on the board.

Extended Learning: Learners sort, group and name triangular, circular and rectangular object in school and at home.

TERM 1
WORK TO DO ANSWERS

Term One:

Week 1 Lesson1

The teacher to listen to and observe as learners read or point or sign the numbers.

Week 1 Lesson2

The teacher to listen to and observe as learners read or point or sign the numbers.

Week 1 Lesson3

b. 9 c. 12 d. 18 e. 20

Week 1 Lesson4

b. 29 c. 33 d. 40e. 48

Week 1 Lesson5

1. 2, 4, 6, 8, 10, 12, 14, 16, 18, 20

2. 20, 18, 16, 14, 12, 10, 6, 4, 2.

Week 2Lesson1

1.1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47,49

2.49, 47, 45, 43, 41, 39, 37, 35,33, 31, 29, 27, 25, 23, 21, 19, 17, 15,13, 11, 9, 7, 5, 3, 1.

Week 2 Lesson2

2. 5 Tens 4 Ones

3. 6 Tens 1 Ones

4. 7 Tens 8 Ones

Week 2 Lesson3

Teacher to listen to and observe as learners read or point or sign and write or type or stamp or mount the numbers in symbols.

Week 2 Lesson4

Teacher to listen to and observe as learners read or point or sign and write or type or stamp or mount the numbers in symbols.

Week 2 Lesson5

Number	Word
2	Two
5	Five
9	Nine
10	Ten

Week 3 Lesson1

1.132.113. 10 4. 16 5. 14 6. 13

Week 3Lesson2

1. 30 2. 40 3. 15 4. 205. 35 6. 5

Week 3 Lesson3

Teacher to observe as the learners make or mount a half using circular paper cut-outs.

Week 3 Lesson4

Teacher to observe as the learners make or mount a half using rectangular paper cut-outs.

Week 3 Lesson5

A, D, F, G, H.

Week 4 Lesson1

Teacher to observe as the learners carry out the activity.

Week 4 Lesson2

1. 17 2. 39 3. 28 4. 19 5. 43

Week 4 Lesson3

1. 94 2. 38 3. 67 4. 89 5. 78

Week 4 Lesson4

1. 58 2. 65 3. 88 4. 36 5. 48 6. 78

Week 4 Lesson5

1. 7 2. 8 3. 10 4. 7 5. 9 6. 6

Week 5 Lesson1

1. 29 2. 49 3. 57 4. 39 5. 48 6. 28

Week 5 Lesson2

1. 39 2. 42 3. 36 4. 47 5. 29 6. 48

Week 5 Lesson3

1. 15 2. 9 3. 16 4. 19 5. 17 6. 15

Week 5 Lesson4

1. 2 2. 3 3. 4 4. 3 5. 6 6. 4

Week 5 Lesson5

1. 5 2. 2 3. 5 4. 7 5. 3 6. 3

Week 6 Lesson1

1. 6 2. 55 3. 26 4. 44 5. 19 6. 37

Week 6 Lesson2

1. 22 2. 33 3. 43 4. 73 5. 84 6. 15

Week 6 Lesson3

1. 4, 42. 2, 2 3. 2, 2 4. 3, 3 5. 6, 6 6. 6, 6

Week 7 Lesson1

1. 13 2. 3 3. 11 4. 13 5. 12 6. 5

Week 7 Lesson2

1. 3, 6 2. 5, 10 3. 4, 4, 8

Week 7 Lesson3

1. 3, 6 2. 3, 9 3. 2 4. 4, 4, 8 5. 4, 4, 12 6. 5, 5, 10

Week 7 Lesson4

1. 3, 3, 3, 9 2. 4, 4, 4, 16 3. 3, 3, 3, 12 4. 5, 5, 10

5. 5, 5, 15

Week 7 Lesson5

1. 2, 2, 2, 8 2. 2, 4, 12 3. 2, 2, 2, 2, 10 4. 5, 5, 5, 15

Week 8 Lesson1

1. X 2. X 3. X, 5 4. 4, 4 5. 2X5

Week 8 Lesson2

1. 4X3=12 2. 5X2=10 3. 2X4=8 4. 3X4=12

5. 4X5=20

Week 8 Lesson3

1. 3 2. 4 3. 5 4. 6 5. 7 6. 8 7. 9

Week 8 Lesson4

The answers in this exercise will depend on the lengths of the mathematics text book, teacher's table, the door, the board and the arbitrary units used.

Week 8 Lesson5

The answers in this exercise will depend on the lengths of the chalkboard, classroom wall and window; and the arbitrary units used.

Week 9 Lesson1

The answers in this exercise will depend on the mass of the stone, schoolbag and packet of sand; and the arbitrary units used.

Week 9 Lesson2

The answers in this exercise will depend on the mass of the potato, rubber, pencil and piece of chalk; and the arbitrary units used.

Week 9 Lesson3

The answers in this exercise will depend on the size of the containers used.

Week 9 Lesson4

The answers in this exercise will depend on the size of the containers used.

Week 9 Lesson5

The answers in this exercise will depend on the size of the containers used.

Week 10 Lesson1

Teacher to listen to and observe as learners read or point or sign and write or type or stamp or mount the months of the year in order.

Week 10 Lesson2

The answers in this exercise will depend on the learners' experience and the locality where they come from.

Week 10 Lesson3

1. February2. April, June, September, November.

3. January, March, May, July, August, October, December.

Week 10 Lesson4

The answers in this exercise will depend on how the teacher instructs the learners to clap, tap and thumb click.

Week 10 Lesson5

1. 20 2. 5 3. 14. 40 5. 100

Week 11 Lesson1

1. 5 2. 50 3. 10 4. 100 5. 20 6. 1

Week 11 Lesson2

1. 11 2. 16 3. 35 4. 36 5. 45

Week 11 Lesson3

1.56 2. 65 3. 81 4. 36

Week 11 Lesson4

Any correct response.

Week 11 Lesson5

1. A, D, F 2. C, E, H 3. B, G, I

TERM 1
I CAN DO ANSWERS

1. Teacher to listen and observe as learners read or sign or point numbers
2. 80
3. Teacher to listen and observe as learners count or sign or point numbers forward
4. Teacher to listen and observe as learner count or sign or backward
5. 1 hundred, 0 tens, 0 ones
6. Learners to draw any 11 objects
   12
7. 84
8. 75
9. B
10. 31
11. 35
12. 57
13. 35
14. 43
15. 29, 33
16. 20
17. 12
    12
    16
    20
18. 13
19. 7
20. 64, 62
21. 15
22. 9
23. 12
24. 10
25. 8
26. 4
    8
    6
    4
    3
    7
    15
27. Shorter than
    Longer than
    Longer than

28. Heavier than

Same as

Lighter than

Lighter than

29. Sunday

Friday

Thursday

Monday

Saturday

30. Need

Need

Want

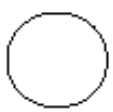
Want

31. 5

2

1, 2, 2

32. A straight line in any direction

33. 

TERM 2

NUMBERS

GENERAL LEARNING OUTCOME

The learner should be able to demonstrate mastery of number concepts by working out problems in day to day life.

NUMBER CONCEPT

Background Information

Learners have already learnt how to sort, match and order items either in increasing or decreasing order. The learners at this level are also able to recite number names in symbols up to 50.In this sub-strand, leaners will extend their knowledge of numbers by reading numbers 1-100 in symbols and representing the numbers using objects. Learners will also be expected to play digital games using learner digital devices (LDD) or any other information technology devices (IT).

The development of core competencies would be enhanced as learners work in purposive pairs or groups. The teacher should link the various components in the curriculum designs. These components include but are not limited to discussing issues like safety of materials being used which is one of the pertinent and contemporary issues (PCIs), values that can be nurtured such as unity, respect, patriotism, responsibility among others. The teacher should also involve learners in non-formal activities like counting different types of items in their classroom. The teacher may also discuss how the number concept is linked to Languages and Hygiene and Nutrition Activities. The teacher may organize visits to homes of the elderly for learners to listen to stories of how they used to count their possessions as a way of promoting learning outside the school.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to read or point or sign number symbols up to 80.
SUB-STRAND NUMBER CONCEPT	**Key Inquiry Question:** How do you read numbers in symbols? **Suggested Learning Resources:** Videos, audios, number cards, number charts

Introduction

Learners to read or point, or sign number symbols up to 50.

Development

Teacher Activities	**Demonstrate:** Show learners how to read or point or sign number symbols 1 up to 80 on a number chart.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to read numbers in symbols, 1 up to 80 on number charts. Learners listen to audio on reading numbers.
Learner Activities	Learners to do activities in pupil's book page 71.
Conclusion	Learners to pick numbers from a box, flash and read or point or sign. Learners with motor difficulties and those with missing limbs could use alternative functional part of the body, appropriate assistive devices, with assistance where necessary.

Extended Learning: Learners to read or point or sign rental box numbers at the nearest post office.Learners with speech difficulties could use residual speech or sign or point or use communication board . Peers could also report their views.

NOTE:The adaptation made in these learning activities apply to all subsequent activities under number concept whole number, fraction, adition, subtractionand multiplication substrands, However besides these adaptations, other adaptation have also been made under specific activities.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to represent numbers up to 80 using objects.
SUB-STRAND NUMBER CONCEPT	**Key Inquiry Question:** How do you represent numbers using objects? **Suggested Learning Resources:** Books, pencils, bottles, spoons, number cards, adapted LDDs/ICT devices, bookholders, head/mouth pointers, number stamp, multipurpose communication board, page turners, universal cuff

Introduction

Learners to represent numbers up to 50 using objects.

Development

Teacher Activities	**Demonstrate:** Show learners how to represent numbers using objects. **Number** | **Objects** 52 | 61 |
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to represent numbers up to 80 using objects as they fill in the table.
Learner Activities	Learners to do activities in pupil's book page 73.
Conclusion	Learners use number cards to represent objects drawn on a chart.

Extended Learning : Learners to represent numbers using objects, for example number of desks in school and number of utensils at home.

WHOLE NUMBERS

Background Information

In Grade One, learners learnt how to count numbers forward and backward up to 100.They also identified place value of ones, tens as well as reading and writing numbers 1 to 20 in words. In this sub-strand these concepts are developed further. Learners will count and write numbers up to 100 in symbols and identify place value up to hundreds. The learners will also write numbers 1-20 in words. Learners will also make patterns using numbers up to 100 and it is hoped that they will appreciate number patterns as they skip on the number line. The teacher should guide learners in playing digital games in school and outside school.

The development of core competencies would be enhanced as learners work in purposive pairs or groups. The teacher should link the various components in the curriculum designs. These components include but are not limited to discussing issues like safety of materials being used (PCIs), values that can be nurtured such as unity, respect, patriotism, and responsibility among others. The teacher should also involve learners in non-formal activities like planting flowers following a pattern in the school compound. The teacher may also discuss how the whole number concept is linked to Languages, Environmental and Movement and Creative Activities. At home, learners may assist in arranging chairs and tables in rows and columns in community functions as a way of promoting learning outside the school.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to count or point or sign numbers in 5's up to 100 forward and backward.
SUB-STRAND WHOLE NUMBERS	**Key Inquiry Question:** How do you count or point or sign numbers forward and backward? **Suggested Learning Resources:** Counters, sticks, stones,seeds, grains, adapted LDDs/ICT devices, bookholders, head/mouth pointers, number stamp, multipurpose communication board, page turners, universal cuff

Introduction

Learners to count or point or sign numbers in 2's up to 50 forward and backward.
Learners to represent numbers up to 80 using objects.

Development

Teacher Activities	**Demonstrate:** Show learners how to count or point or sign in 5's up to 100 forward and backward using counters.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups practice counting or pointing or signing in 5's up to 100 forward and backward starting from any point using counters.
Learner Activities	Learners to do activities in pupil's book page 74.
Conclusion	Learners to play a game involving counting or pointing or signing in 5's up to 100.

Extended Learning: Learners to practise counting or pointing or signing in 5's in school, at home and in the community.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to identify place value of digits in numbers up to hundreds.
SUB-STRAND WHOLE NUMBERS	**Key Inquiry Question:** How do you identify the position of a digit in a number? **Suggested Learning Resources:** Number tins, sticks, straws , adapted LDDsICT devices, bookholders, head/mouth pointers, number stamp, multipurpose communication board , page turners, universal cuff

Introduction

Learners to identify place value of digits in numbers up to tens.

Development

Teacher Activities	**Demonstrate:** Show learners how to represent the place value of 100 using number tins.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to represent place value of digits in numbers using number tins.
Learner Activities	Learners to do activities in pupil's book page 75.
Conclusion	Learners in turns to represent place value of digits in numbers using place value tins.

Extended Learning: Learners to represent digits in numbers using straws and place value tins in school and at home.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to read and write or type or stamp or mount number symbols up to 80.
SUB-STRAND WHOLE NUMBERS	**Key Inquiry Question:** How do you read and write numbers? **Suggested Learning Resources:** Number chart, number cards, video clips, adapted LDDs, bookholders, head/mouth pointers, number stamp, multipurpose communication board, page turners, universal cuff

Introduction

Learners to read or point o sign and write or stamp or type or mount number symbols up to 50.

Development

Teacher Activities	**Demonstrate:** Show learners how to read or point or sign and write or type or stamp or mount numbers 1 up to 80 using number charts and number cards.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to read or point or sign and write or type or stamp or mount numbers up to 80 using number cards.
Learner Activities	Learners to do activities in pupil's book page 76.
Conclusion	Learners to read or point or sign and write or type or stamp or mount number symbols up to 80.

Extended Learning: Learners to read or point or sign and write or type or stamp or mount number symbols at school and at home.

NOTE:The adaptations made in this lesson, on reading and writing apply to all subsequent activities involving writing under whole numbers, fractions, additions, subtraction, multiplications and division substrands.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to read and write numbers up to 15 in words.
SUB-STRAND WHOLE NUMBERS	**Key Inquiry Question:** How do you read and write numbers in words? **Suggested Learning Resources:** Cards with numerals and words, video clips, multipurpose stamp, adapted LDDs/ ICT devices, bookholders, head/mouth pointers, multipurpose communication board, page turners , universal cuff

Introduction

Learners to answers questions on how to write numbers 11 to 15 words.

Development

Teacher Activities	**Demonstrate:** Show learners how to read and write numbers up 1 to 15 in words with more emphasis on 11 to 15. Pick, flash, read and write numbers in words; one number at a time.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to read and write numbers 1 up to 15 in words using number cards.
Learner Activities	Learners to do activities in pupil's book page 77.
Conclusion	Learners to pick, read and write numbers up to 15 in words.

Extended Learning: Learners to prepare cards with numerals and words using papers and read them to their peers during play and to family members.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to work out missing numbers in patterns up to 50 in 2's.
SUB-STRAND WHOLE NUMBERS	**Key Inquiry Question:** How do you complete number patterns? **Suggested Learning Resources:** Cards with numerals, video clips, adapted LDDs/ICT devices, bookholders, head/mouth pointers, multipurpose communication board, page turners, universal cuff

Introduction
Learners to count or point or sign numbers in 2's up to 50 both forward and backward.

Development

Teacher Activities	**Write:** 27,29, 31, 33, ____, 37 and 46, 44, 42, 40,____, 36. **Demonstrate:** Show learners how to identify the rule of the pattern and work out the missing numbers in the patterns.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to work out missing numbers in patterns up to 50.
Learner Activities	Learners to do activities in pupil's book page 78.
Conclusion	Display an incomplete number pattern chart on the board. Learners establish a rule for the pattern and then pick number cards from a box to complete the pattern.

Extended Learning: Learners to play digital games involving number patterns, both in school and at home. Learners with motor difficulties and those with missing limbs could use adapted LDDs/ ICT devices keyboard,sensitive touch screen)which enhance manipulation br head/pointer/mouth pointers,fingers or toes. Reduce light intensity(glare) for learners with epilepsy.
NOTE:This adaptations applies to all activities involving digital games under whole number, fractions, addition, subtraction and division sub strands.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to work out missing numbers in patterns up to 100 in 5's.
SUB-STRAND WHOLE NUMBERS	**Key Inquiry Question:** How do you complete number patterns? **Suggested Learning Resources:** Cards with numerals, video clips, number chart, adapted LDDs//ICT devices, bookholders, head/mouth pointers, number stamp, multipurpose communication board, page turners, universal cuff

Introduction

Learners to count or point or sign numbers in 5's up to 100 both forward and backward.

Development

Teacher Activities	**Write:** 60, 65, 70, 75, ____, 85 and 90, 85, 80, 75, ___, 65. **Demonstrate:** Show learners how to identify the rule of the pattern and work out the missing numbers in the patterns.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to work out missing numbers in patterns up to 100.
Learner Activities	Learners to do activities in pupil's book page 79.
Conclusion	Learners to fill in missing numbers in a given pattern on a number chart.

Extended Learning: Learners to play games involving skip-counting in 5's using bottle tops both in school and at home.

FRACTIONS

Background Information

In this sub-strand learners will be introduced to the fraction ½ and ¼ as part of a whole and as part of a group. Learners may however, have experiences from home where they have shared whole items like fruits, sweets or even bread.

It is from this background that the teacher can introduce a half (½) and a quarter (¼) as part of a whole using items like an orange, piece of stick, loaf of bread, circular and rectangular cut-outs. In introducing fractions as part of a group the teacher may use items like pebbles, marbles, straws, sticks, bottle tops or any other safe type of counter. Knowledge of sorting and grouping acquired in the earlier grade will be useful in this sub-strand. Leaners will also be expected to play digital games using LDD or any other IT devices.

The development of core competencies would be enhanced as learners work in purposive pairs or groups. The teacher should link the various components in the curriculum designs. These components include but are not limited to discussing issues like safety of materials being used (PCIs), values that can be nurtured such as unity, respect, patriotism and responsibility among others. The teacher should also involve learners in non-formal activities like sharing edible food items in halves and quarters in school. The teacher may also discuss how the concept on fractions is linked to Languages and Hygiene and Nutrition Activities. Learners may assist in sharing items in halves and quarters in community functions as a way of promoting learning outside the school.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to identify a quarter as part of a whole.
SUB-STRAND FRACTIONS	**Key Inquiry Question:** How do you get four equal parts from a whole? **Suggested Learning Resources:** Paper cut-outs, manila papers, masking tape, paper clips, communication board

Introduction

Learners to answer questions orally or point or sign on how they share items in school,at home and in the community.

Development

Teacher Activities	**Demonstrate:** Show learners how to identify a quarter as part of a whole using circular paper cut-outs.
Teacher and Learners Activities	**Guide:** Learners in purposive pairs or groups fold circular paper cut-outs to get four equal parts. Shade one part to identify a quarter as part of a whole.
Learner Activities	Learners to do activities in pupil's book page 80.
Conclusion	Learners to paste quarters as parts of wholes on manila papers and display at the learners' corner.

Extended Learning: Learners share whole items into quarters both in school and at home. For example, chapati, Ugali, bread

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to identify a quarter as part of a whole.
SUB-STRAND FRACTIONS	**Key Inquiry Question:** How do you get four equal parts from a whole? **Suggested Learning Resources:** Paper cut-outs, manila papers, communication board

Introduction

Learners to answer questions orally or point or sign on how they share items in school, at home and in the community.

Development

Teacher Activities	**Demonstrate:** Show learners how to identify a quarter as part of a whole using rectangular paper cut-outs.
Teacher and Learners Activities	**Guide:** Learners in purposive pairs or groups fold rectangular paper cut-outs to get four equal parts. Shade one part to identify a quarter as part of a whole.
Learner Activities	Learners to do activities in pupil's book page 81.
Conclusion	Learners to paste quarters as parts of wholes on manila papers and display at the learners' corner.

Extended Learning: Learners to share orally or point or sign whole items into quarters both in school and at home. For example bread.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to write a quarter using symbols.
SUB-STRAND FRACTIONS	Key Inquiry Question: How do you write a quarter using numbers? Suggested Learning Resources: Paper cut-outs, felt pens, manila paper, adapted LDDs, bookholders, head/mouth pointers, number stamp, multipurpose communication board , page turners, universal cuff

Introduction

Learners to answer questions orally or point or sign on a quarter as part of a whole.

Development

Teacher Activities	**Demonstrate:** Show learners how to represent a quarter using paper cut-outs. Show learners how to write a quarter as ¼ .
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups fold a rectangular and a circular paper cut-out to get quarters. Shade one of the quarters in each cut-out and represent it as 1 out of 4; which is 1/4.
Learner Activities	Learners to do activities in pupil's book page 82.
Conclusion	Learners to draw, shade and label a quarter using symbols.

Extended Learning: Learners to identify a quarter as a symbol in the environment. For example at the Butchery, cereals' shop, hotel menu

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to form a whole using quarters.
SUB-STRAND FRACTIONS	**Key Inquiry Question:** How do you use parts to form a whole? **Suggested Learning Resources:** Paper cut-outs of different sizes, felt pens, manila paper, masking tape, communication board

Introduction

Learners to answer questions orally or point or sign on how to form wholes using different parts.

Development

Teacher Activities	**Demonstrate:** Show learners how to form a whole using quarters of circular paper cut-outs.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to form wholes from quarters of circular paper cut-outs by pairing and sticking on a manila paper.
Learner Activities	Prepare quarter paper cut-outs of different sizes. Learners to do activities in pupil's book page 83.
Conclusion	Learners to display wholes formed from quarters.

Extended Learning: Learners to form wholes by combining quarters of different colours and sizes from the environment.

ADDITION

Background Information

Addition of a 1 digit number to up to a 2-digit number without regrouping was covered in Grade One. Learners have also learnt how to work out missing numbers in patterns involving addition up to 100. This sub- strand will build on this knowledge to extend the addition of whole numbers. Learners will therefore be involved in the addition of up to two 2-digit numbers with regrouping from ones to tens. The teacher can search for digital games that involve addition and guide the learners in playing them.

The development of core competencies would be enhanced as learners work in purposive pairs or groups. The teacher should link the various components in the curriculum designs. These components include but are not limited to discussing issues like safety of materials being used (PCIs), values that can be nurtured such as unity, respect, patriotism and responsibility among others. The teacher should also involve learners in non-formal activities like planting flowers in patterns in school. The teacher may also discuss how the addition concept is linked to Environmental and Languages Activities. The teacher may organize visits to older citizen's homes for learners to assist them in working out the total number of different items in their homes as a way of extending learning outside the school.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to add a 2-digit number to a 1- digit numberwith regrouping up to a sum of 50 horizontally.
SUB STRAND ADDITION	**Key Inquiry Question:** How do you add a 2-digit number to a 1- digit number? **Suggested Learning Resources:** Counters, basic addition facts table, adapted LDDs/ ICT devices, bookholders, head/mouth pointers, number stamp, multipurpose communication board , page turners, universal cuff

Introduction

Learners to add a 2 -digit number to a 1 -digit number up to a sum of 20.

Development

Teacher **Activities**	**Write:** 14 + 8 = ☐ **Demonstrate:**Show learners how to break apart 8 as 6 + 2 and then add 6 to 14 to make a ten. 14 + 8 = 14 + 6 +2 20 + 2 = 22 Therefore,14 + 8 = 22 .
Teacher and Learner Activities	**Write:** 35+ 7 = ☐ **Guide:** Learners in purposive pairs or groups to add 35 + 7 by breaking apart.
Learner Activities	Learners to do activities in pupil's book page 84.
Conclusion	Learners to add a 2-digit number to a 1 – digit number by breaking apart up to a sum of 50.

Extended learning: Learners to practise addition by breaking apart with their family members.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to add a 2-digit number to a 1- digit number with regrouping up to a sum of 50 vertically.
SUB-STRAND ADDITION	**Key Inquiry Question;** How do you add a 2-digit number to a 1- digit number? **Suggested Learning Resources;** Counters, basic addition table, place value apparatus. adapted LDDs/ICT devices, bookholders, head/mouth pointers, number stamp, multipurpose communication board, page turners, universal cuff

Introduction

Learners to add a 2 -digit number to a 1 -digit number up to a sum of 20.

Development

Teacher **Activities**	**Write**: 28 + 9 —— **Demonstrate:** Show learners how to add 8 ones to 9 ones to get 17 ones. Show them how to regroup 17 ones as 1 ten and 7 ones, take the 1 ten to the tens place. Add the tens as 1 + 2 to get 3 tens. 28 + 9 37

Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to add 25 + 7 with regrouping
Learner Activities	Learners to do activities in pupil's book page 85.
Conclusion	Learners to add a 2-digit number to a 1 – digit number with regrouping up to a sum of 50 vertically.

Extended learning: Learners to practise addition by breaking apart with their family members.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to add a 2-digit number to a 1- digit number with regrouping up to a sum of 100 horizontally.
SUB-STRAND ADDITION	**Key Inquiry Question;** How do you add a 2-digit number to a 1- digit number? **Suggested Learning Resources:** Counters, basic addition table, adapted LDDs, bookholders, head/mouth pointers, number stamp, multipurpose communication board , page turners, universal cuff

Introduction

Learners to add a 2 -digit number to a 1 -digit number up to a sum of 50.

Development

Teacher Activities	**Write:** 68 + 5 = ☐ **Demonstrate:** Show learners how to break apart 5 as 2 + 3 and then add 2 to 68 to make a ten. 68+ 5 = 68 + 2+3 70 + 3 = 73 Therefore 68 + 5 = 73
Teacher and **Learner Activities**	**Write: 25 + 7 =** ☐ **Guide:** Learners in purposive pairs or groups to add 25 + 7 by regrouping.
Learner Activities	Learners to do activities in pupil's book page 86.
Conclusion	Learners to add a 2-digit number to a 1 – digit number with regrouping up to a sum of 100 horizontally..

Extended learning: Learners to practise addition with family members **.**

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to add a 2-digit number to a 1- digit number with regrouping up to a sum of 100 vertically.
SUB STRAND ADDITION	**Key Inquiry Question:** How do you add a 2-digit number to a 1- digit number? **Suggested Learning Resources:** Counters, basic addition table, place value apparatus, adapted LDDs, bookholders, head/mouth pointers, number stamp, multipurpose communication board, page turners, universal cuff

Introduction

Learners to add a 2 -digit number to a 1 -digit number up to a sum of 50.

Development

Teacher Activities	**Write:** 46 + 9 _____ _____ **Demonstrate:** Show learners how to add 6 ones to 9 ones to get 15 ones. Show them how to regroup 15 ones as 1 ten and 5 ones, take the 1 ten to the tens place. Add the tens as 1+ 4 to get 5 $^{1}46$ + 9 55

Teacher and Learner Activities	**Write:** 67+ 8 = ☐ **Guide:** Learners in purposive pairs or groups to work out 67 + 8 vertically.
Learner Activities	Learners to do activities in pupil's book page 87.
Conclusion	Learners to add a 2-digit number to a 1 – digit number with regrouping up to a sum of 100 vertically.

Extended learning: Learners to practise addition with regrouping with their family members.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to add 3-single digit numbers up to a sum of 20.
SUB STRAND ADDITION	**Key Inquiry Question:**How do you add single digit numbers? **Suggested Learning Resources:** Counters, basic addition facts table, adapted LDDs, bookholders, head/mouth pointers, number stamp, multipurpose communication board , page turners, universal cuff

Introduction

Learners to add 2-single digit numbers.

Development

Teacher Activities	**Write:** 7 + 5 + 3 = ☐ **Demonstrate:** Show learners how to add 5 to 7 to get 12, then add 3 to 12 to get 15 as 7 + 5 = 12, 12 + 3 = 15 Therefore, 7 + 5 + 3 = 15
Teacher and Learner Activitiess	**Write:** 6 + 4 + 8 = ☐ **Guide:** Learners in purposive pairs or groups to work out 6 + 4 + 8
Learner Activities	Learners to do activities in pupil's book page 88
Conclusion	Learners to add 3-single digit numbers up to a sum of 20.

Extended learning: Learners to practise addition of single digit numbers with their family members.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to add a 2-digit number to a 2-digit number up to a sum of 100 without regrouping horizontally.
SUB STRAND ADDITION	**Key Inquiry Question:** How do you add a 2-digit number to a 2- digit number? **Suggested Learning Resources:** Counters, place value apparatus, adapted LDDs, bookholders, head/mouth pointers, number stamp, multipurpose communication board, book holdres , page turners, universal cuff

Introduction

Learners to add a 2 -digit number to a 1 -digit number up to a sum of 50.

Development

Teacher Activities	**Write:** 64 +23 = ☐ **Demonstrate:** Show learners how to add 4 ones to 3 ones to get 7 ones and to write 7 in ones place. Show them how to add 6 tens to 2 tens to get 8 tens and to write 8 in the tens place. 64 + 23 = 87
Teacher and Learner Activities	**Write:** 53 + 26 = ☐ **Guide:** Learners in purposive pairs or groups to work out 53 + 26.
Learner Activities	Learners to do activities in pupil's book page 89.
Conclusion	Learners to add a 2-digit number to a 2-digit number up to a sum of 100 without regrouping horizontally.

Extended learning: Learners to practise adding a 2-digit number to a 2-digit number with their family members.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to add a 2-digit number to a 2- digit number up to a sum of 50 with regrouping horizontally.
SUB-STRAND ADDITION	**Key Inquiry Question:** How do you add a 2-digit number to a 2- digit number? **Suggested Learning Resources:** Counters, basic addition table, place value apparatus, adapted LDDs, bookholders, head/mouth pointers, number stamp, multipurpose communication board, page turners, universal cuff

Introduction

Learners to add a 2 -digit number to a 1 -digit number up to a sum of 50.

Development

Teacher Activities	**Write:** 18 + 27 = ☐ **Demonstrate:** Show learners how to add 8 ones to 7 ones to get 15 ones. Show them how to regroup 15 ones as 1 ten and 5 ones, then take the 1 ten to the tens place. Add the tens as 1 + 1 + 2 to get 4. $^{1}18$ $+\ 27$ 45
Teacher and Learner Activities	**Write:** 26+ 19 = ☐ **Guide:** Learners in purposive pairs or groups to work out 26 + 19.
Learner Activities	Learners to do activities in pupil's book page 90.
Conclusion	Learners to add a 2-digit number to a 2 – digit number up to a sum of 50 with regrouping horizontally.

Extended learning: Learners to practise addition of up to 2-digit numbers with their family members.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to add a 2-digit number to a 2- digit number up to a sum of 50 with regrouping vertically.
SUB-STRAND ADDITION	**Key Inquiry Question:**How do you add a 2-digit number to a 2-digit number? **Suggested Learning Resources:** Counters, basic addition facts table, place value apparatus, adapted LDDs, bookholders, head/mouth pointers, number stamp, multipurpose communication board , page turners, universal cuff

Introduction

Learners to add a 2-digit number to a 1-digit number up to a sum of 50.

Development

Teacher Activities	**Write:** 31 + 19 ___ **Demonstrate:** Show learners how to add 1 ones to 9 ones to get 10 ones. Show them how to regroup 10 ones as 1 ten and 0 ones. Explain to the learners to write 0 in the ones place, then take the 1 ten to the tens place. Add the tens as 1 + 3 + 1 to get 5 $^{1}31$ + 19 50
Teacher and Learner Activities	**Write:** 26 + 18 ___ **Guide:** Learners in purposive pairs or groups to work out 26 + 18.

Learner Activities	Learners to do activities in pupil's book page 91.
Conclusion	Learners to add a 2-digit number to a 2 – digit number up to a sum of 50 with regrouping vertically.

Extended learning: Learners to practise addition of up to 2-digit numbers with their family members.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to work out missing numbers in patterns involving addition up to 50.
SUB-STRAND ADDITION	**Key Inquiry Question:** How do you work out missing numbers in patterns? **Suggested Learning Resources:** Counters, number line, adapted LDDs, bookholders, head/mouth pointers, number stamp, multipurpose communication board , page turners, universal cuff

Introduction

Learners to add a 2-digit number to a 1-digit number.

Development

Teacher Activities	**Write:** The pattern 17, 19, 21, 23, _____,27. **Demonstrat:** Show learners how to work out the missing number in the pattern 17, 19, 21, 23, _____,27 by adding 2 to a number to get the next number; 17 + 2 =19, 19 + 2 =21, 21 + 2 = 23, 23 + 2 = 25, 25 + 2 = 27. The missing number is 25. The pattern is 17, 19, 21, 23, 25 ,27.
Teacher and Learner Activities	**Write:** The pattern 16, 20, 24, 28, ___, ___ . **Guide:** Learners in purposive pairs or groups to work out missing numbers in the pattern 16, 20, 24, 28,___, ___ .
Learner Activities	Learners to do activities in pupil's book page 92.
Conclusion	Learners to work out missing numbers in patterns involving addition up to 50.

Extended learning: Learners to practise working out missing numbers in patterns with family members.

SUBTRACTION

Background Information

Subtraction was introduced in Grade One through practical activities as taking away. In Grade Two, subtraction of a 1 digit number from a 2-digit number based on basic addition facts is covered. The relationship between addition and subtraction as well as number patterns involving subtraction is also covered in Grade One. It is on this pre-requisite that the concept of subtraction of up to 2-digit numbers is developed. Missing numbers in patterns involving subtraction of up to 100 will also be taught under this sub strand. Teachers are encouraged to involve learners in playing digital games on subtraction.

The development of core competencies would be enhanced as learners work in purposive pairs or groups. The teacher should link the various components in the curriculum designs. These components include but are not limited to discussing issues like safety of materials being used (PCIs), values that can be nurtured such as unity, respect, patriotism and responsibility among others. The teacher should also involve learners in non-formal activities like collecting litter in the school compound. The teacher may also discuss how the subtraction concept is linked to Languages and Environmental Activities. Learners may participate in cleaning the environment organized by community members as a way of promoting learning outside the school.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to subtract multiples of 10 up to 90 horizontally.
SUB-STRAND SUBTRACTION	**Key Inquiry Question:** How do you subtract tens? **Suggested Learning Resources:** Bundles of sticks, tens frame, adapted LDDs/ ICT devices, bookholders, head/mouth pointers, number stamp, multipurpose communication board, page turners, universal cuff

Introduction

Learners to make bundles of 10 sticks.

Development

Teacher Activities	**Write**: 70 - 30 = ☐ **Demonstrate:** Show learners how to work out 70 - 30 Explain to the learners that 70 is 7 tens and 30 is 3 tens. Show the learners how to subtract 3 tens from 7 tens to get 4 tens. Write 4 tens as 40. Therefore 70 – 30 = 40.
Teacher and Learner activities	**Write:** 60 - 20 = ☐ **Guide:**Learners in purposive pairs or groups to work out 60 - 20.
Learner Activities	Learners to do activities in pupil's book page 93.
Conclusion	Learners to subtract multiples of 10 up to 90 horizontally.

Extended activities: Learners to practise subtraction of multiples of 10 up to 90 with family members.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to subtract multiples of 10 up to 90 vertically.
SUB STRAND SUBTRACTION	**Key Inquiry Question:** How do you subtract tens? **Suggested Learning Resources:** Bundles of sticks, tens frame, adapted LDDs/ ICT devices, bookholders, head/mouth pointers, number stamp, multipurpose communication board , page turners, universal cuff

Introduction

Learners to subtract multiples of 10 up to 50.

Development

Teacher Activities	**Write**: 50 - 20 _____ **Demonstrate:** Show learners how to work out 50 - 20. by first subtracting the ones (0 – 0 = 0 ones), then the tens (5 - 2 = 3 tens) and writing the digits in their correct place.
Teacher and Learner activities	**Write**: 70 - 50 ____ **Guide:**Learners in purposive pairs or groups to work out 70 - 50.
Learner Activities	Learners to do activities in pupil's book page 94.
Conclusion	Learners to subtract multiples of 10 up to 90 vertically.

Extended learning: Learners to practise subtraction of multiples of 10 up to 90 with family members.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to subtract a 1-digit number from a 2-digit number using the relationship between addition and subtraction.
SUB-STRAND SUBTRACTION	**Key Inquiry Question:** How do you subtract numbers using the relationship between addition and subtraction? **Suggested Learning Resources:** Counters, basic addition table, adapted LDDs/ ICT devices, bookholders, head/mouth pointers, number stamp, multipurpose communication board, page turners, universal cuff

Introduction

Learners to add and subtract single digit numbers.

Development

Teacher Activities	**Write**: 7 + 8 = 15 and 8 + 7 = 15 15 - □ = 7 15 - □ = 8 **Demonstrate:** Show learners how to write 7 + 8 = 15 as 15 - 8 = 7 and 8 + 7 = 15 as 15 – 8 = 7. Explain to the learners the numbers 7, 8, 15 make a number fact family Therefore 7 + 8 = 15 and 8 + 7 = 15 15 – 8 = 7 and 15 - 7 = 8
Teacher and Learner Activities	**Write:** 6 + 9 = 15 and 9 + 6 = 15 **Guide:** Learners in purposive pairs or groups to use 6 + 9 = 15 and 9 + 6 = 15. to work out the related subtraction sentence.
Learner Activities	Learners to do activities in pupil's book page 95.
Conclusion	Learners to subtract a 1-digit number from a 2-digit numbers using the relationship between addition and subtraction.

Extended learning: Learners practise subtraction of numbers using the relationship between addition and subtraction with family members.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to work out missing number in subtraction of a 1-digit number from a 2-digit number.
SUB-STRAND SUBTRACTION	**Key Inquiry Question:** How do you work out missing numbers in subtraction? **Suggested Learning Resources:** Counters, basic addition table, adapted LDDs, bookholders, head/mouth pointers, number stamp, multipurpose communication board, page turners, universal cuff

Introduction

Learners to add and subtract single digit numbers.

Development

Teacher Activities	**Write**: 13 – ☐ = 5 **Demonstrate:** Show learners how to work out the missing number in 13 – ☐ = 5 by subtracting the smaller number from the bigger number as 13 – 5 = 8. Explain to the learners that the numbers 5, 8, 13 is a number fact family. Therefore 13 – 8 = 5
Teacher and Learner Activities	**Write**: 64 - ☐ = 59 **Guide:** Learners in purposive pairs or groups to work out the missing number in 64 - ☐ = 59
Learner Activities	Learners to do activities in pupil's book page 96.
Conclusion	Learners to work out missing numbers using number fact family.

Extended learning: Learners to practise subtraction of a 1-digit number from a 2-digit number with family members.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to work out missing numbers in subtraction of a 1-digit number from a 2-digit number.
SUB-STRAND SUBTRACTION	**Key Inquiry Question:** How do you work out missing numbers in subtraction? **Suggested Learning Resources:** Counters, adapted LDDs, bookholders, head/mouth pointers, number stamp, multipurpose communication board, page turners, universal cuff

Introduction
Learners to add and subtract single digit numbers.

Development

Teacher Activities	**Write**: ☐ - 4 = 6 **Demonstrate:** Show learners how to work out the missing number in ☐ - 4 = 6 by adding the two given numbers as 4 + 6 = 10 .The missing number is 10. 10 - 4 = 6
Teacher and Learner Activities	**Write**: ☐ - 7 = 69 **Guide:** Learners in purposive pairs or groups to work out the missing number in ☐ - 7 = 69
Learner Activities	Learners to do activities in pupil's book page 97.
Conclusion	Learners to work out missing numbers using the numbers fact family.

Extended learning: Learners to practise subtraction of a 1-digit number from a 2-digit with family members.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to work out missing numbers in subtraction of a 2-digit number from a 2-digit number.
SUB-STRAND SUBTRACTION	**Key Inquiry Question:** How do you work out missing numbers in subtraction? **Suggested Learning Resources:** Counters, place value apparatus, basic addtion table, head/mouth pointers, page turners, book holders, pen/pencil grips, universal cuffs, multipurpose communication board, multipurpose stamp, adapted LDDs/ICT devices

Introduction

Learners to add and subtract single digit numbers.

Development

Teacher Activities	**Write:** 59 - ☐ = 34. **Demonstrate:** Show learners how to work out the missing number in 59 - ☐ = 34. by subtracting the smaller number from bigger number as 59 -34 = 25. The missing number is 25. Therefore 59 – ☐25 = 34
Teacher and Learner Activities	**Write:** 77 - ☐ = 26. **Guide:** Learners in purposive pairs or groups to work out the missing number in 77 - ☐ = 26.
Learner Activities	Learners to do activities in pupil's book page 98.
Conclusion	Learners to work out missing numbers in subtraction of 2 digit numbers.

Extended learning: Learners to practise subtraction of a 2-digit number from a 2-digit with family members.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to work out missing numbers in patterns involving subtraction from 1up to 50.
SUB STRAND SUBTRACTION	**Key Inquiry Question:** How do you wouk out missing numbers in patterns? **Suggested Learning Resources:** Counters, adapted LDDs/ICT devices, bookholders, head/mouth pointers, number stamp, multipurpose communication board, book holders , page turners, universal cuff

Introduction

Learners to subtract single digit numbers.

Development

Teacher Activities	**Write**: The pattern 39, 37,35, _____ . **Demonstrate:** Show learners how to work out the missing number in patterns 39, 37, 35, ___by subtracting 2 from a number to get the next number. 39 - 2 = 37, 37 - 2 = 35, 35 - 2 = 33. The missing number is **33.** The pattern is 39, 37,35, **33.**
Teacher and learner activities	**Write**: The pattern 47,45, 43,____ . **Guide:** Learners in purposive pairs or groups to work out the missing number in pattern 47, 45, 43_____ .
Learner Activities	Learners to do activities in pupils book page 99.
Conclusion	Learners to work out missing numbers in patterns involving subtraction from 1up to 50.

Extended learning: Learners to practise working out missing numbers in patterns involving subtraction from 1up to 50 with family members.

MULTIPLICATION

Background Information

Multiplication is introduced in this level as repeated addition. In the modeling of these activities, the learners form groups with equal number of objects, then put them together and count to get the total number which is the answer to a multiplication question. The multiplication (×) sign is introduced in this grade. It is hoped that the teacher will use equal groups of objects a number of times to relate repeated addition with multiplication sentences. It is important to emphasize that the number of groups represent the first factor in the multiplication sentence while the other number represents the number of items in each of the groups.

The concept of repeated addition is further developed in this sub strand where learners are expected to multiply single digit numbers by numbers up to 10. Digital games on multiplication should be included to make the lesson interesting and for learners to link multiplication to everyday activities.

The development of core competencies would be enhanced as learners work in purposive pairs or groups. The teacher should link the various components in the curriculum designs. These components include but are not limited to discussing issues like safety of materials being used (PCIs), values that can be nurtured such as unity, respect, patriotism and responsibility among others. The teacher should also involve learners in non-formal activities like working out the total number of desks in their classroom through repeated addition. The teacher may also discuss how the multiplication concept is linked to Languages and Environmental Activities .Learners may visit older citizens and assist them in arranging items in groups of equal numbers as a way of promoting learning outside the school.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to multiply single digit numbers by 2.
SUB-STRAND MULTIPLICATION	**Key Inquiry Question:** How do you multiply single digit numbers by 2? **Suggested Learning Resources:** counters, adapted LDDs/ICT devices, , bookholders, head/mouth pointers, number stamp, multipurpose communication board , page turners, universal cuff

Introduction

Learners to add single digit numbers.

Development

Teacher Activities	**Draw:** ΔΔΔ and ΔΔΔ is ΔΔΔΔΔΔ 3 + 3 = 6 **Demonstrate:** Show learners that 2 groups with 3 objects each is written as 2 x 3 and to write the multiplication sentence as 2 x 3 = 6.
Teacher and Learner Activities	**Draw:** ΔΔΔΔ and ΔΔΔΔ is ΔΔΔΔΔΔΔΔ 4 + 4 = 8 **Guide:** Learners in purposive pairs or groups to multiply single digit numbers by 2.
Learner Activities	Learners to do activities in pupils book page 100.
Conclusion	Learners to multiply single digit numbers by 2.

Extended learning: Learners to practise how to multiply single digit numbers by 2 with family members.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to multiply single digit numbers by 3.
SUB STRAND MULTIPLICATION	**Key Inquiry Question:** How do you multiply single digit numbers by 3? **Suggested Learning Resources:** Counters, adapted LDDs/ICT devices, bookholders, head/mouth pointers, number stamp, multipurpose communication board, book holders , page turners, universal cuff

Introduction

Learners to add single digit numbers.

Development

Teacher Activities	**Draw:** ΔΔΔΔ and ΔΔΔΔ and ΔΔΔΔ is ΔΔΔΔΔΔΔΔΔΔΔΔ 4 + 4 + 4 = 12 **Demonstrate:** Show learners that 3 groups with 4 objects each is written as 3 x 4 and to write the multiplication sentence 3 x 4 = 12.
Teacher and Learner Activities	**Draw:** ΔΔ and ΔΔ and Δ Δ is ΔΔΔΔΔΔ 2 + 2 + 2 = 6 **Guide:** Learners in purposive pairs or groups to multiply single digit numbers by 3.
Learner Activities	Learners to do activities in pupil's book page101.
Conclusion	Learners to multiply single digit numbers by 3.

Extended learning: Learners to practise how to multiply single digit numbers by 3 with family members.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to multiply single digit numbers by 4
SUB STRAND MULTIPLICATION	**Key Inquiry Question:** How do you multiply single digit numbers by 4? **Suggested Learning Resources:** Counters, adapted LDDs/ICT devices, bookholders, head/mouth pointers, number stamp, multipurpose communication board, page turners, universal cuff

Introduction

Learners to add single digit numbers.

Development

Teacher Activities	**Draw** ΔΔΔ and ΔΔΔ and ΔΔΔ and ΔΔΔ is ΔΔΔΔΔΔΔΔΔΔΔΔ 3 + 3 + 3 + 3 = 12 **Demonstrate**; Show learners that 4 groups with 3 objects each is written as 4 x 3 and to write the multiplication sentence 4 x 3 = 12.
Teacher and Learner Activities	**Draw:** ΔΔΔΔ and ΔΔΔΔ and ΔΔΔΔ and ΔΔΔΔ is ΔΔΔΔΔΔΔΔΔΔΔΔΔΔΔΔ 4 + 4 + 4 + 4 = 16. **Guide:** Learners in purposive pairs or groups to multiply single digit numbers by 4.
Learner Activities	Learners to do activities in pupil's book page 102.
Conclusion	Learners to multiply single digit numbers by 4.

Extended learning : Learners to practise how to multiply single digit numbers by 4 with family members.

DIVISION

Background Information

Division is introduced in this grade as equal sharing and equal grouping. However, it is not a new concept as learners have had experiences in their day to day life in school, at home or even during play. The division sign (÷) is also introduced in this grade. Learners may play digital games involving division as guided by the specific learning outcomes in the curriculum design for this grade.

The development of core competencies would be enhanced as learners work in purposive pairs or groups. The teacher should link the various components in the curriculum designs. These components include but are not limited to discussing issues like safety of materials being used (PCIs), values that can be nurtured such as unity, respect, patriotism and responsibility among others. The teacher should also involve learners in non-formal activities like planting seedlings in rows in the school compound. The teacher may also discuss how the division concept is linked to Languages and Environmental Activities. The Teacher may organize for a visit to a children's home and for learners to share edible items like fruits with them as a way of giving back to the community.

STRAND NUMBERS	**Specific lesson Learning Outcome** By the end of the lesson, the learner should be able to represent division as equal sharing.
SUB-STRAND DIVISION	**Key Inquiry Question:** How can you share a given number of objects equally?
	Suggested Learning Resources: Bottle tops, seeds, sticks, balls, marbles, stones, grains, adapted LDDs/ICT devices, bookholders, head/mouth pointers, number stamp, multipurpose communication board , page turners, universal cuff

Introduction

Learners to share orally or point or sign their experiences on sharing items equally at home and at school.

Development

Teacher Activities	**Demonstrate:** Share 6 bottle tops equally between 2 learners by giving each learner a bottle top at a time. Count the number of bottle tops each learner gets.
Teacher and **Learner Activities**	**Guide:** Learners in purposive pairs or groups to share objects equally and then count how many each has.
Learner Activities	Learners to do activities in pupil's book page 103.
Conclusion	Learners to share items equally.

Extended Learning: Learners to practise equal sharing at home.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson the learner should be able to represent division as equal grouping.
SUB-STRAND DIVISION	**Key Inquiry Question:** How can we make groups with equal number of objects from a given number of objects?
	Suggested Learning Resources: Bottle tops, seeds, sticks, balls, marbles, stones, grains, adapted LDDs/ICT devices, bookholders, head/ mouth pointers, number stamp, multipurpose communication board, page turners, universal cuff

Introduction

Learners to share orally or point or sign their experiences on forming equal groups at school.

Development

Teacher Activities	**Demonstrate:** Show learners how to form groups of 3 from 12 seeds. Count the number of groups formed.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to form groups of 4 from 20 sticks. Count or sign or point and write or type or stamp or mount the number of groups formed. Learners to share their results with other groups.
Learner Activities	Learners to do activity in pupil's book page 104.
Conclusion	Learners to ask and answer questions on equal grouping.

Extended Learning: Learners to practise putting objects into groups with equal numbers at home

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson the learner should be able to represent equal sharing and equal grouping using the division sign ' ÷ '.
SUB-STRAND DIVISION	**Key Inquiry Question**: How do you write equal sharing and equal grouping using the sign? **Suggested Learning Resources:** Bottles tops, seeds, sticks, balls, marbles, stones, wooden blocks, pencils, cups, adapted LDDs/ICT devices, book holders, page turners, head/mouth pointers, multipurpose communication board, multipurpose stamp, universal cuff

Introduction

Learners to share orally or point or sign their experiences on equal sharing and equal grouping**.**

Development

Teacher Activities	**Draw**: 10 bottle tops **Demonstrate:** Show learners how to share 10 bottle tops equally between 2 learners. **Write:** The division sentence as 10 ÷ 2. **Draw:** 6 cups **Demonstrate**: Show learners how to put 6 cups into 3 equal groups **Write:** The division sentence as 6 ÷ 3.
Teacher and Learner Activities	**Guide:** Learners in purposive pair or groups to share equally and also form groups with equal number of objects. Learners to use division sign to represent equal sharing and equal grouping.
Learner Activities	Learners to do activities in pupil's book page 105-106.
Conclusion	Learners to represent equal sharing and equal grouping using division ' ÷ ' sign.

Extended Learning: Learners to practise representing equal sharing and equal grouping as division with family members.

STRAND NUMBERS	**Specific lesson Learning Outcome** By the end of the lesson, the learner should be able to use division sign (÷) in writing division sentences.
SUB-STRAND DIVISION	**Key Inquiry Question:** How can you represent equal sharing or equal grouping using symbols?
	Suggested Learning Resources: Bottle tops, seeds, sticks, balls, marbles, stones, grains, adapted LDDs/ICT devices, bookholders, head/mouth pointers, number stamp, multipurpose communication board , page turners, universal cuff

Introduction

Learners to share objects equally and form equal groups in the classroom.

Development

Teacher Activities	**Demonstrate:** Show how to represent equal sharing with the division symbol by sharing 6 balls among 3 learners. Show learners how to represent equal grouping with the division symbol by putting 8 balls into groups of 2.
Teacher and Learner Activities	**Guide:** learners in purposive pairs or groups to share equally or form groups with equal numbers and write division sentences for the activities.
Learner Activities	Learners to do activities in pupil's book page 107.
Conclusion	Learners to write or stamp or type or mount division sentences to represent equal sharing and equal grouping.

Extended Learning: Learners to practise writing or stamping or typing or mounting division sentences to represent equal sharing or equal grouping at home.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to divide numbers up to 10 by 2 and 3 without remainder.
SUB-STRAND DIVISION	**Key Inquiry Question:** How can you divide numbers? **Suggested Learning Resources:** Balloons, counters, marbles, adapted LDDs/ ICT devices, bookholders, head/mouth pointers, number stamp, multipurpose communication board , page turners, universal cuff

Introduction

Learners to share objects equally and to form groups with equal objects.

Development

Teacher Activities	**Write**: 10 ÷ 2 = ☐ and 6 ÷ 3 = ☐ **Demonstrate:** Show learners how to work out 10÷2 by sharing 10 balloons equally between 2 learners for each to get 5 and 6÷3 by grouping 6 marbles into 3 groups of 2 marbles each. Therefore 10 ÷ 2 = 5 and 6 ÷ 3 = 2
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to use equal sharing and equal grouping to divide numbers. Learners to share their results with the other groups.
Learner Activities	Learners to do activities in pupil's book page 108.
Conclusion	Learners to ask and answer questions on division of numbers.

Extended Learning: Learners to practise dividing numbers with family members.

MEASUREMENT

GENERAL LEARNING OUTCOME

The learner should be able to apply measurement skills to final solution to problems in a variety of contexts.

LENGTH

Background Information

The development of the concepts under measurements follows clearly defined stages. In earlier grades, under the sub strand on length, learners compare lengths of objects directly, measure length using arbitrary units and finally measure length using fixed arbitrary units. In this sub-strand learners will be expected to identify the metre as a unit of measuring length and measure length in metres. The teacher should therefore involve learners in measuring activities using the metre stick.

The development of core competencies would be enhanced as learners work in purposive pairs or groups. The teacher should link the various components in the curriculum designs. These components include but are not limited to discussing issues like safety of materials being used (PCIs), values that can be nurtured such as unity, respect, patriotism and responsibility among others. The teacher should also involve learners in non-formal activities like measuring lengths of fields in school during games. The teacher may also discuss how the length concept is linked to Languages and Environmental Activities. Learners may assist their neighbours to measure length during building of chicken or rabbit cages among others as a way of promoting learning outside the classroom.

STRAND MEASUREMENT	**Specific Lesson Learning Outcome** By the end of the lesson the learner should be able to identify the metre as a unit of measuring length.
SUB-STRAND LENGTH	**Key Inquiry Question:** What can we use to get the same length for the same object?
	Suggested Learning Resources: Coloured sticks of different lengths including a 1-metre stick, universal cuff, multipurpose stamps, head/mouth pointers, pen/pencil grips, multipurpose communication board, book holders, page turners, masking tape, adapted LDDs/ICT devices

Introduction

Learners to suggest objects they can use to measure length.

Development

Teacher Activities	**Demonstrate:** Show learners how to measure the length of the chalkboard using the coloured sticks. Record the measure for each stick.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to measure length using the colored sticks. Learners record the lengths and share with other groups. Guide learners in identifying the metre as a unit of measuring length.
Learner Activities	Learners to do activities in pupil's book page 109. Learners with motor difficulties and those with missing limbs could use alternative functional part of the body, appropriate assistive devices , with assistance where necessary .care and ssafety should be observed for learners with brittle bones by giving them lighter activities.
Conclusion	Compare the lengths using the metre stick.

Extended Learning: Learners to discuss with family members the use of metre to measure length. Learners with speech difficulties could use residual speech or sign or point or use communication board. Family members could also report their views.

NOTE:The adaptation of these activities apply to all the subsequent activities under length,Mass, Capacity,Time, and money substrands.However besides these adaptations , other adaptations have also been made.

STRAND MEASUREMENT	**Specific Lesson Learning Outcome** By the end of the lesson the learner should be able to measure length using the metre.
SUB-STRAND LENGTH	**Key Inquiry Question:** Why do we use the metre in measuring length? **Suggested Learning Resources:** 1 metre sticks. universal cuff, multipurpose stamps, head/mouth pointers, pen/pencil grips, multipurpose communication board , bookholders , page turners, masking tape,adapted LDDs/ICT devices

Introduction

Learners to use sticks to measure length.

Development

Teacher Activities	**Demonstrate:** Show learners how to measure the length of the shorter side of the classroom wall using a 1 metre stick.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to measure length using 1 metre sticks and record. Learners to share their findings with other groups. Explain that the length of objects is the same across the groups because the unit of measure is uniform.
Learner Activities	Learners to do the activities in pupil's book page 110
Conclusion	Learners to measure length using 1metre sticks.

Extended Learning: Learners to measure length in metres in the environment

MASS

Background Information

The development of the concepts under measurements follows clearly defined stages. In earlier grades, under the sub-strand on mass, learners compare mass of objects directly, measure mass using arbitrary units and finally measure mass using fixed arbitrary units.

In this sub strand learners will be expected to identify the kilogram as a unit of measuring mass and measure mass in kilograms. The teacher should therefore involve learners in making 1 kilogram mass using a beam balance.

The development of core competencies would be enhanced as learners work in purposive pairs or groups. The teacher should link the various components in the curriculum designs. These components include but are not limited to discussing issues like safety of materials being used (PCIs), values that can be nurtured such as unity, respect, patriotism and responsibility among others. The teacher should involve learners in non-formal activities like measuring mass of items in their classroom in kilograms during their free time. The teacher may also discuss how the concept of mass is linked to Languages and Environmental Activities. Learners may assist their neighbours in measuring mass of items in their homes in kilograms as a way of promoting learning outside the classroom.

STRAND MEASUREMENT	**Specific Lesson Learning Outcome** By the end of the lesson the learner should be able to identify kilogram as a unit of measuring mass.
SUB-STRAND MASS	**Key Inquiry Question:** What can we use to get the same mass for the same object? **Suggested Learning Resources:** Coins, exercise books, block of wood, sand, textbook, school bag, beam balance, packets of chalk

Introduction

Learners to share orally or sign or point their experiences on measuring mass.

Development

Teacher Activities	**Demonstrate:** Using the beam balance, **s**how learners how to balance 1-kg mass with sand.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to balance 1 kg mass with soil.Learners to record the mass and share with other groups. Guide learners in identifying kilogram as a unit of measuring mass.
Learner Activities	Learners to do activities in pupils book page 111.
Conclusion	Balance 1-kg mass with different mass of items.

Extended Learning: Learners to identify objects with a mass of 1 kg at home.

STRAND MEASUREMENT	**Specific Lesson Learning Outcome** By the end of the lesson the learner should be able to make a 1 kg mass.
SUB-STRAND MASS	**Key Inquiry Question:**How can we get the same measure of mass for the same object each time we measure? **Suggested Learning Resources:** 1 kg mass, soil, sand, seeds, stones or pebbles, beam balance

Introduction
Learners to name or point or sign items measured in kilogrammes.

Development

Teacher Activities	**Demonstrate:** Using a beam balance and the 1 kg mass, **s**how learners how to make 1 kg mass using soil.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to make 1 kg masses using soil, seeds and pebbles/ stones.
Learner Activities	Learners to do activities in pupil's book page 112.
Conclusion	Learners to compare the 1 kg mass made.

Extended Learning: Learners to identify items measured in kilogrammes in the environment.

CAPACITY

Background Information

The development of the concepts under measurements follow clearly defined stages. In earlier grades, under the sub strand on capacity, learners compare capacity of containers directly through filling and emptying using water, measure capacity of containers using arbitrary units and finally measure capacity of containers using fixed arbitrary units. In this sub-strand learners will be expected to identify the litre as a unit of measuring capacity and measure capacity in litres. The teacher should therefore involve learners in measuring activities using 1 litre container.

The development of core competencies would be enhanced as learners work in purposive pairs or groups. The teacher should link the various components in the curriculum designs. These components include but are not limited to discussing issues like safety of materials being used (PCIs), values that can be nurtured such as unity, respect, patriotism and responsibility among others. The teacher should involve learners in non-formal activities like measuring capacity of containers in their classroom in litres during their free time. The teacher may also discuss how capacity is linked to Languages and Environmental Activities. As a way of promoting learning outside the classroom, learners may assist their neighbours at home in measuring capacity of containers used for storing liquids.

STRAND MEASUREMENT	**Specific Lesson Learning Outcome** By the end of the lesson the learner should be able to measure capacity using fixed units.
SUB-STRAND CAPACITY	**Key Inquiry Question**: How can you find the amount of water a container holds? **Suggested Learning Resources:** Jug, basin, bucket, jerrycan, sufuria, universal cuff, multipurpose stramps, head/pointers, pen/pencil grips, multipurpose communication board , bookholders , page turners, masking tape, adapted LDDs/ICT devices

Introduction

Learners to share orally or sign or point or sign experiences on filling of containers

Teacher Activities	**Demonstrate:** Show learners how to find the number of jugs full of water that fill a basin. **Write:** The number of jugs full of water that fill the basin.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to find the number of jugs full of water that fill given containers. Learners to share their findings with the other groups.
Learner Activities	Learners to do activities in pupil's book page 113.
Conclusion	Learners to state the steps in finding the amount of water a container can hold.

Development

Extended Learning: Learners to find the capacity of containers in the environment using other containers.

STRAND MEASUREMENT	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to identify the litre as a unit of measuring capacity.
SUB-STRAND CAPACITY	**Key Inquiry Question:** How can you find the capacity of a container? **Suggested Learning Resources:** Water**,** jugs, bowl, 1litre tin

Introduction

Learners to share orally or point their experiences on pouring water from a small container to a larger container.

Development

Teacher Activities	**Demonstrate:** Show learners how to find the amount of water a bucket can hold. Fill the bucket with water using a jug and record the number of jugs. Fill the same bucket using a 1 litre tin and record the number of cans. **Write:** The number of jugs full of water and number of tins that fill the bucket.
Teacher and Learner Activitie	**Guide**: Learners in purposive pairs or groups measure the capacity of a bucket using a jug and repeat using a 1 litre tins. Explain that the number of 1 litre tins used give the capacity of the bucket in litres.
Learner Activities	Learners to do activities in pupil's book page 114
Conclusion	Learners to compare capacity of containers using the litre.

Extended learning: Learners to identify containers in the environment whose capacity is given in litres.

STRAND MEASUREMENT	**Specific Lesson Learning Outcome** By the end of the lesson the learner should be able to measure capacity in litres.
SUB-STRAND CAPACITY	**Key Inquiry Question:** How can you measure the capacity of a container? **Suggested Learning Resources:** Water, jerrycan, sufuria, 1 litre tin, universal cuff, multipurpose stamps, head/pointers, pen/pencil grips, multipurpose communication board , bookholders , page turners, masking tape, adapted LDDs/ICT devices

Introduction
Learners to name or point or sign containers they commonly use.
Development

Teacher Activities	**Demonstrate**: Show learners how to find the capacity of a pot using a 1 litre tin. Explain to the learners that the capacity of the pot in litres is equal to the number of 1 litre tin that filled it.
Teacher and Learner Activities	**Guide**: Learners in purposive pairs or groups to measure the capacity of a jerrycan and a sufuria using 1 litre tin. Learners to share findings with the other groups.
Learner Activities	Learners to do activities in pupil's book page 115.
Conclusion	Learners to give the capacity of a given container in litres.

Extended Learning: Learners to measure capacity of containers in litres at home.

TIME

Background Information

The concept of time is introduced by relating daily activities to different times of the day like morning, noon, evening and night while the days and months of the year are related to the various activities done in a particular day or month. Time just like other measurements is first measured using arbitrary units before using the standard units that is hours, minutes and seconds. In this sub-strand, learners will be introduced to the clock face as well as read and tell time by the hour using both the analogue and digital clocks.

The development of core competencies would be enhanced as learners work in purposive pairs or groups. The teacher should link the various components in the curriculum designs. These components include but are not limited to discussing issues like safety of materials being used (PCIs), values that can be nurtured such as unity, respect, patriotism and responsibility among others. The teacher should involve learners in non-formal activities like cleaning their classroom during free time. The teacher may also discuss how the time concept is linked to Environmental, Languages and Religious Activities. As a form of community service learning, learners could assist their neighbours in keeping their compounds clean during school holidays.

STRAND MEASUREMENT	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to measure time using arbitrary units.
SUB-STRAND TIME	**Key Inquiry Question:** How can you tell how long an activity takes? **Suggested Learning Resources:** Universal cuff, multipurpose stamps, head/pointers, pen/pencil grips, multipurpose communication board , bookholders , page turners, masking tape, adapted LDDs/ICT devices Chart on National Anthem in Kiswahili

Introduction

Learners to sing or hum or mime or stump a song while clapping.

Development

Teacher Activities	**Demonstrate**: Show learners how to time the singing of the first stanza of the National Anthem in Kiswahili by nodding , stumping, tapping at equal intervals. Have a learner count the number of nods or stump or tap as you sing. **Write**: On the board the number of nods or taps or stamps
Teacher and Learner Activities	**Guide**: Learners in purposive pairs or groups to sing the National Anthem in Kiswahili while foot thumping or tapping. Record the number of foot thumps. Repeat the activity using nods and thump,tapps clicks Learners to share their findings with the other groups.
Learner Activities	Learners to do activities in pupil's book page 116.
Conclusion	Learners to sing or hum or mime or stamp a familiar song while foot thumping and record the number of foot thumps.

Extended Learning: Learners to practice timing of activities in the community

STRAND MEASUREMENT	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to measure time using fixed units.
SUB-STRAND TIME	**Key Inquiry Question:**How can you tell how long an activity takes? **Suggested Learning Resources:** Chart on National Anthem, adapted LDDs / ICT devices

Introduction
Learners to sing or hum or sign or tap a song while nodding.
Development

Teacher Activities	**Demonstrate**: Show learners how to time the singing of the first stanza of the National Anthem using nods at equal intervals. Pick one learner to record the number of nods. Write on the board the number of nods.
Teacher and Learner Activities	**Guide**: Learners in purposive pairs or groups to time the singing of the National Anthem while nodding and record the number of nods. Repeat the activity using another familiar song. Learners to share their findings with the other groups
Learner Activities	Learners to do activities in pupil's book page 117.
Conclusion	Learners to sing or hum or mime a familiar song while nodding and record the number of nods.

Extended Learning: Learners to practise timing of activities in the community.

STRAND MEASUREMENT	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to identify clock face.
SUB-STRAND TIME	**Key Inquiry Question:** How can you tell time? **Suggested Learning Resources:** Analogue clocks, universal cuff, multipurpose stamps, head/mouth pointers, pen/pencil grips, multipurpose communication board , bookholders , page turners, masking tape, adapted LDDs/ICT devices

Introduction:
Learners to share orally or point or sign their experiences with clocks.
Development

Teacher Activities	**Demonstrate**: Show the learners a clock face and explain its features. Draw the clock face on the board.
Teacher and Learner Activities	**Guide**: Learners in purposive pairs or groups identify the features of a clock face. Learners to share their findings with the other groups.
Learner Activities	Learners to do activities in pupil's book page 118.
Conclusion	Learners to ask and answer questions on the clock face.

Extended Learning: Learners to explore features of clock faces at home.

STRAND MEASUREMENT	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to read and tell time by the hour.
SUB-STRAND TIME	**Key Inquiry Question:** How can you tell time? **Suggested Learning Resources:** Analogue clocks, adapted LDDs/ICT devices

Introduction:
Learners to share orally or sign or point experiences on how they tell time.
Development

Teacher Activities	**Demonstrate**: Using a clock face, explain how to tell time by the hour. **Draw:** A clock face indicating time by the hour.
Teacher and Learner Activities	**Guide**: Using the clock face, learners in purpose pairs or groups to tell time by the hour. Learners to share their findings with the other groups.
Learner Activities	Learners to do activities in pupil's book page 119.
Conclusion	Learners to tell time by the hour.

Extended Learning: Learners to tell time by the hour at home.

MONEY

Background Information

The teaching of money begins with the learners being guided to identify the different currency coins and notes. In Grade One learners perform shopping activities which lead to differentiating goods and services as well as needs and wants. In this sub-strand the money concept is developed further where learners are also taught about needs and wants as well as spending and saving which learners need to understand to be able to make meaningful decisions on money issues.

The development of core competencies would be enhanced as learners work in purposive pairs or groups. The teacher should link the various components in the curriculum designs. These components include but are not limited to discussing issues like safety of materials being used (PCIs), values that can be nurtured such as unity, honesty, responsibility among others. As a non-formal activity learners may assist the school clerk in sorting coins and notes according to their value. The teacher may also discuss how the money concept is linked to Languages, Environmental and Religious Activities. As a community service activity to support learning, learners may assist in counting money offered in religious and non-religious functions.

STRAND MEASUREMENT	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to relate money to goods and services up to 100 shillings.
SUB-STRAND MONEY	**Key Inquiry Question:** What can you do with money? **Suggested Learning Resources:** Classroom shop, money, universal cuff,multipurpose stamps, Head/pointers, pen/pencil grips, multipurpose communication board , bookholders , page turners, masking tape, adapted LDDs/ICT devices

Introduction

Learners to share orally or sign or point their experiences on use of money.

Development

Teacher Activities	**Demonstrate:** Role play shopping activities for goods of up to 100 shillings.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups, to role play use of money in shopping activities and paying for services. Learners to share experiences with other groups.
Learner Activities	Learners to do activities in pupil's book page 120.
Conclusion	Learners to tell what goods they can buy and services they can pay for with money.

Extended Learning: Learners to participate in shopping activities and services in the community.

STRAND MEASUREMENT	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to represent the same amount of money in different denominations.
SUB-STRAND MONEY	**Key Inquiry Question:** How can you represent the same amount of money in different forms? **Suggested Learning Resources:** Real money in notes and coins, universal cuff, multipurpose stamps, head/mouth pointers, pen/pencil grips, multipurpose communication board , bookholders, page turners, masking tape, adapted LDDs/ICT devices

Introduction
Learners to share orally or sign or point their experiences with money and its value.
Development

Teacher Activities	**Demonstrate:** Show learners how to represent 5 shillings and 10 shillings in different denominations. **Write:** 5 shillings and 10 shillings and their equivalent in different denominations.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to represent same amount of money in different denominations. Explain to the learner that this is called change.
Learner Activities	Learners to do activities in pupil's book page 121.
Conclusion	Learners to represent given amount of money in different denominations.

Extended Learning: Learners to assist their parents in getting and giving change.

STRAND MEASUREMENT	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to differentiate needs and wants.
SUB-STRAND MONEY	**Key Inquiry Question:** How can you choose what to do with your money? **Suggested Learning Resources:** Pictures of toys, water, food, dress, bar soap, ball. universal cuff, multipurpose stamps, head/mouth pointers, pen/pencil grips, multipurpose communication board , bookholders , page turners, masking tape, adapted LDDs/ICT devices

Introduction

Learners to share orally or sign or point on how they can spend a given amount of money.

Development

Teacher Activities	**Demonstrate:** Display and explain pictures of goods that can be bought with money. Explain to the learners that there are some things we cannot do without and others that we can do without. **Write:** The needs and wants from the pictures displayed.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to identify needs and wants. Learners to share their findings with the other groups.
Learner Activities	Learners to do activities in pupil's book page 122
Conclusion	Learners to share on their experience in making choices between needs and wants.

Extended learning: Learners to participate in making choices on spending money at home.

STRAND MEASUREMENT	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to appreciate spending and saving in real life.
SUB-STRAND MONEY	**Key Inquiry Question:** Why do you save money? **Suggested Learning Resources:** Real money in coins and notes, universal cuff, multipurpose stamps, head/mouth pointers, pen/pencil grips, multipurpose communication board , bookholders , page turners, masking tape, adapted LDDs/ICT devices

Introduction

Learners to share orally or sign or point or signs their experiences on saving money.

Development

Teacher Activities	**Demonstrate:** Share with learners your experience on spending wisely and saving money.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to discuss experiences on spending and saving money. Explain situations when one can save money.
Learner Activities	Learners to do activities in pupil's book page 123.
Conclusion	Learners to identify situations when they can save money.

Extended learning: Learners to participate in spending and saving money in the community.

GEOMETRY

GENERAL LEARNING OUTCOME

The learner should be able to describe properties of geometrical shapes and spatial relationships in real life experiences.

LINES

Background Information

The learning of geometry starts with the learners modeling straight and curved lines. In Grade One, learners model these lines through different activities. In this sub-strand, the straight lines and curved lines concept is developed further.

The development of core competencies would be enhanced as learners work in purposive pairs or groups. The teacher should link the various components in the curriculum designs. These components include but are not limited to discussing issues like safety of materials being used (PCIs), values that can be nurtured such as unity, respect, patriotism and responsibility among others. The teacher should involve learners in non-formal activities like arranging seats in straight or curved formations in the classroom. The teacher may also discuss how the line concept is linked to Movement and Creative and Environmental Activities. As a community service activity to support learning, learners may assist in arranging seats in straight and curved formations in community functions.

STRAND GEOMETRY	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to make straight lines.
SUB-STRAND LINES	**Key Inquiry Question:** How do you make straight lines? **Suggested Learning Resources:** Plasticine, clay, water, a piece of rope, papier marché, baking dough, string, rope

Introduction

Learners to draw or sign straight lines in the air.

Development

Teacher Activities	**Demonstrate:** Show learners how to model straight lines using papier marché or clay or plasticine or baking dough.
Teacher and Learner Activities	**Guide:** : Learners in purposive pairs or groups to model straight lines using papier marché or plasticine or clay or baking dough.
Learner Activities	Learners to do activities in pupil's book page 124.
Conclusion	Learners to display and discuss models of straight lines made during the lesson.

Extended Learning: Learners to model straight lines in school, at home and in the community.

STRAND GEOMETRY	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to draw straight lines.
SUB-STRAND LINES	**Key Inquiry Question:** How do you draw straight lines? **Suggested Learning Resources:** Pieces of stick, crayons, chalk, and charcoal, universal cuff, multipurpose stamps, head/mouth pointers, pen/pencil grips, multipurpose communication board , bookholders, page turners, masking tape, adapted LDDs/ICT devices

Introduction

Learners to draw or sign straight lines in the air.

Development

Teacher Activities	**Demonstrate:** Show learners how to draw straight lines using pieces of stick, crayons, chalk or charcoal.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to draw straight lines using pieces of sticks, crayons, chalk or charcoal.
Learner Activities	Learners to do activities in pupil's book page 125.
Conclusion	Learners to draw or stamp or mount straight lines in their exercise books.

Extended Learning: Learners to practise drawing or mounting or stamping straight lines in school, at home and in the community during playtime.

SHAPES

Background Information

Learners start interacting with different shapes found at home and also in the environment before they come to school. In school they start learning about shapes through the sorting and grouping activities. In Grade One learners also learnt how to make patterns using three shapes.

In this sub-strand the concept of shapes is further developed and learners may pick it up and get involved in making patterns on cloths or belts as a business venture in their free time later in life.

The development of core competencies would be enhanced as learners work in purposive pairs or groups. The teacher should link the various components in the curriculum designs. These components include but are not limited to discussing issues like safety of materials being used (PCIs), values that can be nurtured such as unity, respect, patriotism and responsibility among others. The teacher should involve learners in non-formal activities like making patterns and sticking them on classroom walls for beauty. The teacher may also discuss how patterns are linked to Movement and Creative and Environmental Activities. Learners could visit children's homes and beautify their walls with patterns drawn on paper as a way of community service learning.

STRAND GEOMETRY	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to identify ovals
SUB-STRAND SHAPES	**Key Inquiry Question:** How do ovals look like? **Suggested Learning Resources:** Paper cut-outs of rectangles, triangles, circles and oval objects, adapted LDDs/ICT devices , pen/pencil grips, head/mouth pointer, multipurpose stamp, multipurpose communication board, universal cuffs

Introduction
Learners to identify circles, rectangles and triangles in the classroom.
Development

Teacher Activities	**Demonstrate:** Using paper cut-outs show learners how an oval shape looks like.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups identify oval shapes among triangles, rectangles and circles. Paste them on labelled chart.
Learner Activities	Learners to do the activities in pupil's book page 126.
Conclusion	Learners to pick and stick on the board paper cut-outs with oval shape from a box with assorted shapes.

Extended Learning: Learners to sort, group and name or point or sign oval ojects in school and at home.

Strand GEOMETRY	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to make patterns using circles, triangles, rectangles and ovals.
Sub-strand SHAPES	**Key Inquiry Question:** How do you make patterns using shapes? **Suggested Learning Resources:** Paper cut-outs of rectangles, triangles, circles and ovals of different colours

Introduction

Learners to identify rectangles, triangles and circles in the classroom.

Development

Teacher Activities	**Demonstrate:** Using paper cut-outs of different shapes, show learners how to make patterns' Draw rectangle /circle /rectangle /circle... Draw circle /oval/circle./oval.. Draw triangle /oval/rectangle /triangle /oval/rectangle..
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to make or mount patterns using oval shapes among triangles,rectangles, circles and ovals. Paste them on the labelled chart.
Learner Activities	Learners to do activities in pupil's book page 127.
Conclusion	Learners to display patterns made in their learning corner.

Extended Learning: Learners to make mount patterns using rectangles, triangles, circles and ovals in school and at their home.

TERM 2
WORK TO DO ANSWERS

Week 1 Lesson1

B, C, D, A, A, C, D, B, A, C, D, A, D, C, B, A

Week 1 Lesson2

b. 66 c. 79 d. 80

Week 1 Lesson3

1. 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100.
2. 100, 95, 90, 85, 80, 75, 70, 65, 60, 55, 50, 45, 40, 35, 30, 25, 20, 15, 10.

Week 1 Lesson4

2. 0 Hundreds3 Tens 6 Ones 3.0 Hundreds 7 Tens 7 Ones

4. 1 Hundreds 0 Tens 0 Ones

Week 1 Lesson5

Teacher to listen to and observe as learners read or point or sign and write or stamp or type or mount the numbers in symbols.

Week2 Lesson1

1.Nine 2. Eleven 3. Twelve 4. Thirteen 5. Fourteen 6. Fifteen

Week 2 Lesson2

1.32 2. 34 3. 12 4. 9 5. 47

Week 2 Lesson3

1. 65 2. 65 3. 80 4. 90 5. 35 6. 50

Week 2 Lesson4

Teacher to observe as the learners carry out the activity.

Week 2 Lesson5

Teacher to observe as the learners carry out the activity.

Week 3 Lesson1

A, B, D

Week 3 Lesson2

Teacher to observe as the learners carry out the activity.

Week 3 Lesson3

1. 24 2. 23 3. 33 4. 47 5. 22 6. 42

Week 3 Lesson4

1. 36 2. 31 3. 43 4. 20 5. 41 6. 42

Week 3 Lesson5

1. 52 2. 73 3. 81 4. 63 5. 91 6. 42

Week 4 Lesson1

1. 50 2. 95 3. 66 4. 25 5. 41

Week 4 Lesson2

1. 15 2. 15 3. 14 4. 14 5. 16 6. 19

Week 4 Lesson3

1. 58 2. 96 3. 59 4. 87 5. 98 6. 46

Week 4 Lesson4

1. 40 2. 41 3. 52 4. 34 5. 50 6. 43

Week 4 Lesson5

1. 32 2. 41 3. 50 4. 43 5. 44 6. 41

Week 5 Lesson1

1.43 2. 37 3. 30, 35 4. 45 5. 21

Week 5 Lesson2

1.20 2. 30 3. 30 4. 40 5. 30 6. 50

Week 5 Lesson3

1.20 2. 30 3. 40 4. 50 5. 10 6. 10

Week 5 Lesson4

1.14; 5; 5 2. 14;14; 8, 6 3. 13; 8; 5 4. 15;15; 12; 3

Week 5 Lesson5

1. 6 2. 5 3. 4 4. 3 5. 8 6. 2

Week 6 Lesson1

1. 27 2. 39 3. 47 4. 47 5. 97 6. 85

Week 6 Lesson2

1. 11 2. 34 3. 42 4. 12 5. 11 6. 34

Week 6 Lesson3

1.20 2. 46 3. 15 4. 20 5. 34, 32

Week 6 Lesson4

1. 2 2. 4 3. 6 4. 8 5. 10 6. 12 7. 14 8. 16 9. 18

Week 6 Lesson5

1. 3 2. 6 3. 12 4. 15 5. 18 6. 21 7. 24 8. 27

Week 7 Lesson1

1. 4 2. 8 3. 12 4. 16 5. 24 6. 28 7. 32 8. 36

Week 7 Lesson2

1. 4 2. 3 3. 2 4. 3

Week 7 Lesson3

1. 2 2. 5 3. 4 4. 6

Week 7 Lesson4

2. ÷ 3. ÷ 4. ÷5. 9

Week 7 Lesson 5

1. 12÷2=6 2. 6÷2=3 3. 8÷2=4 4. 10÷5=2

Week 8 Lesson 1

1.3 2.3 3.4 4.5

Week 8 Lesson 2

The answers to this exercise will depend on the lengths of the longer and the shorter sides of the classroom and the arbitrary units used.

Week 8 Lesson 3

The answers to this exercise will depend on the lengths of the longer and the shorter sides of the classroom, the teacher's table and the arbitrary units used.

Week 8 Lesson 4

Any objects measured in kilograms.

Week 8 Lesson 5

Teacher to observe as the learners carry out the activity.

Week 9 Lesson 1

The answers in this activity will depend on the size of bucket, jerrycan, sufuria and the arbitrary units used.

Week 9 Lesson 2

The answers in this activity will depend on the size of bucket, and the number of bowls and tins that fill the bucket.

Week 9 Lesson 3

The answers in this activity will depend on the size of jerrycan, sufuria, basin and the number of 1litre tins that fill each of them.

Week 9 Lesson 4

The answers in this exercise will depend on how the teacher instructs the learners to foot thump, nod and thumb click.

Week 9 Lesson 5

Teacher to listen to and observe learners as they sing or sign familiar songs and count or sign the number of nods or taps or stumps they make.

Week 10 Lesson 1

Any clock faces showing the hour hand and the minute hand.

Week 10 Lesson 2

1. 4 O'clock 2. 9 O'clock 3. 11 O'clock

Week 10 Lesson 3

1. 40 2. 15 3. 60 4. 10

Week 10 Lesson 4

1. 4 2. 2 3. 2 4. 8

Week 10 Lesson 5

1. Want 2. Want 3. Need 4. Want 5. Need 6. Need

Week 11 Lesson 1

1. Sh. 20 2. Sh. 10

Week 11 Lesson 2

The teacher to accept any made or mounted straight lines.

Week 11 Lesson 3

The teacher to accept any drawn, stamped or mounted straight lines.

Week 11 Lesson 4

A, C, F, G, H, J

Week 11 Lesson 5

Any patterns made using triangles, circles, rectangles and oval paper cut-outs.

TERM 2

I CAN DO ANSWERS

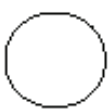
1. Teacher to listen and observe as learners read or sign or point numbers
2. 80
3. Teacher to listen and observe as learners count or sign or point numbers forward
4. Teacher to listen and observe as learner count or sign or backward
5. 1 hundred, 0 tens, 0 ones
6. Learners to draw any 11 objects

   12
7. 84
8. 75
9. B
10. 31
11. 35
12. 57
13. 35
14. 43
15. 29, 33
16. 20
17. 12
    12
    16
    20
18. 13
19. 7
20. 64, 62
21. 15
22. 9
23. 12
24. 10
25. 8
26. 4
    8
    6
    4
    3
    7
    15
27. Shorter than

    Longer than

    Longer than

28. Heavier than
    Same as
    Lighter than
    Lighter than
29. Sunday
    Friday
    Thursday
    Monday
    Saturday

30. Need
    Need
    Want
    Want
31. 5
    2
    1, 2, 2
32. A straight line in any direction
33. 

Term 3

NUMBERS

GENERAL LEARNING OUTCOME

The learners should be able to demonstrate mastery of number concept by working out problems in day to day life.

NUMBER CONCEPT

Background Information

Learners have already learnt how to sort, match and order items either in increasing or decreasing order. The learners at this level are also able to recite number names in symbols up to 50.In this sub-strand, leaners will extend their knowledge of numbers by reading numbers 1-100 in symbols and representing the numbers using objects. Learners will also be expected to play digital games using learner digital devices (LDD) or any other information technology devices (IT).

The development of core competencies would be enhanced as learners work in purposive pairs or groups. The teacher should link the various components in the curriculum designs. These components include but are not limited to discussing issues like safety of materials being used which is one of the pertinent and contemporary issues (PCIs), values that can be nurtured such as unity, respect, patriotism, responsibility among others. The teacher should also involve learners in non-formal activities like counting different types of items in their classroom. The teacher may also discuss how the number concept is linked to Languages and Hygiene and Nutrition Activities. The teacher may organize visits to homes of the elderly for learners to listen to stories of how they used to count their possessions as a way of promoting learning outside the school.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to read or number symbols up to 100.
SUB-STRAND NUMBER CONCEPT	**Key Inquiry Question:** How do you read or point or sign number symbols? **Suggested Learning Resources:** Videos, audios, number cards, number charts, adapted LDDs/ICT devices, number communication board, number charts

Introduction

Learners to read or sign or point number symbols up to 80.

Development

Teacher Activities	**Demonstrate:** Show learners how to read or point or sign number symbols 1 up to 100 on number chart.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to read or point or sign number symbols, 1 up to 100 on a chart. Learners to listen to audios on reading numbers. Tune to an appropriate sound level for learners with epilepsy, cerebral palsy and high blood pressure.
Learner Activities	Learners to do activities in pupil's book page 135.
Conclusion	Learners to read or sign or point numbers from their tables.

Extended Learning: Learners to read or point or sign number charts, page numbers of religious books in school and at home.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to represent numbers up to 100 using objects.
SUB-STRAND NUMBER CONCEPT	**Key Inquiry Question:** How do you represent numbers using objets? **Suggested Learning Resources:** Bottles, sticks,straws, stones, number cards, books, pencils, multipurpose communication board multipurpose stamps, pen/pencil grips, book holders, page turners, universal cuff, head /mouth pointers, adapted LDDs/ICT devices

Introduction

Learners to represent numbers up to 80 using objects.

Development

Teacher Activities	**Demonstrate:** Show learners how to represent numbers using objects. **Number** | **Objects** 77 | 100 |
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to represent numbers using objects as they fill in the table.
Learner Activities	Learners to do activities in pupil's book page 137. Learners with motor difficulties and those with missing limbs could use alternative functional parts of their body or appropriate assistive devices with assistance where necessary.This adaptation applies to conclusion and extended learning activities below.
Conclusion	Learners to use number cards to represent objects drawn on a chart.

Extended Learning: Learners to represent numbers using objects both in school and at home.

NOTE: The adaptation in these learning activities apply to all the subsequent activities where manipulation is involved under number concept , whole numbers, fractions, addition, subtraction, multiplication and division substrands. However, besides these adaptations other adaptations have also been made under specific learning activities.

WHOLE NUMBERS

Background Information

In Grade One, learners learnt how to count numbers forward and backward up to 100.They also identified place value of ones, tens as well as reading and writing numbers 1 to 20 in words. In this sub-strand these concepts are developed further. Learners will count and write numbers up to 100 in symbols and identify place value up to hundreds. The learners will also write numbers 1-20 in words. Learners will also make patterns using numbers up to 100 and it is hoped that they will appreciate number patterns as they skip on the number line. The teacher should guide learners in playing digital games in school and outside school.

The development of core competencies would be enhanced as learners work in purposive pairs or groups. The teacher should link the various components in the curriculum designs. These components include but are not limited to discussing issues like safety of materials being used (PCIs), values that can be nurtured such as unity, respect, patriotism, and responsibility among others. The teacher should also involve learners in non-formal activities like planting flowers following a pattern in the school compound. The teacher may also discuss how the whole number concept is linked to Languages, Environmental and Movement and Creative Activities. At home, learners may assist in arranging chairs and tables in rows and columns in community functions as a way of promoting learning outside the school.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to count numbers in 10's up to100 forward and backward.
SUB-STRAND WHOLE NUMBERS	**Key Inquiry Question:** How do you count numbers forward and backward? **Suggested Learning Resources:** Counters, bottles, sticks,straws, stones, books, pencils

Introduction

Learners to count or point or sign numbers in 10's up to 80 forward and backward.

Development

Teacher Activities	**Demonstrate:** Show learners how to count or point or sign numbers in 10's up to100 forward and backward.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to count or point or sign numbers in 10's up to 100 forward and backward starting from any point using counters.
Learner Activities	Learners to do activities in pupil's book page 138.
Conclusion	Learners to play a game involving counting in 10's.

Extended Learning: Learners to practise counting or pointing or signing numbers in 10's in school, at home and in the community.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to identify place value of digits in numbers up to hundreds.
SUB-STRAND WHOLE NUMBERS	**Key Inquiry Question:** How do you identify the position of a digit in a number? **Suggested Learning Resources:** Multipurpose communication board, multipurpose stamps, pen/pencil grips, book holders,page turners, universal cuff, head /mouth pointers, adapted LDDs/ICT devices, abacus, rings, bottle tops, beads, place value chart

Introduction

Learners to identify place value of digits in numbers up to tens using number tins .

Development

Teacher Activities	**Demonstrate:** Show learners how to represent the place value of 100 using abacus.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to represent the place value of digits in numbers using abacus.
Learner Activities	Learners to do activities in pupil's book page 139.
Conclusion	Learners in turns to represent place value of digits in numbers using abacus.

Extended Learning: Learners to represent place value of digits in numbers using abacus by recording the number of chairs, number of cows and number of learners in a class.

STRAND NUMBERS	**Specific Lesson Learning** Outcome By the end of the lesson, the learner should be able to read or point or sign or mount numbers and write or stamp or type or mount. number symbols up to 100.
SUB-STRAND WHOLE NUMBER	**Key Inquiry Question:** How do you read and write numbers? **Suggested Learning Resources:** Number chart, number cards, video clips, multipurpose communication board , multipurpose stamps, pen/ pencil grips, book holders, page turners, universal cuff, head /mouth pointers, adapted LDDs/ICT devices

Introduction

Learners to read or point or sign and write or stamp or type or mount number symbols up to 80.

Development

Teacher Activities	**Demonstrate:** Show learners how to read or point or sign and write or type or stamp or mount numbers 1 up to 100 using number charts and number cards.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to read or point or sign and write numbers up to 100 using number cards.
Learner Activities	Learners to do activities in pupil's book page 140.
Conclusion	Learners to read or point or sign and write or type or stamp or mount number symbols up to 100.

Extended Learning: Learners to read or point or sign and write or stamp or type or mount number symbols in school and at home.

NOTE: Adaptations made in this lesson on reading and writing apply to all subsequent activities involving writing under whole numbers, fractions, additions, subtraction, multiplication and division substrands.

STRAND NUMBERS	**Specific Lesson Learning** Outcome By the end of the lesson, the learner should be able to read and write numbers up to 20 in words.
SUB-STRAND WHOLE NUMBERS	**Key Inquiry Question:** How do you read and write given numbers in words? **Suggested Learning Resources:** Cards with numerals and words, video clips. multipurpose communication board , multipurpose stamps, pen/pencil grips, book holders, page turners, universal cuff, head / mouth pointers, adapted LDDs/ICT devices

Introduction

Learners to answer questions on how to write 11 up to 15 in words.

Development

Teacher Activities	**Demonstrate:** Show learners how to read and write numbers 1 up to 20 in words with more emphasis on 16 to 20. Pick, flash, read and write numbers in words. one number at a time.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to read and write numbers 1 up to20 in words using number cards.
Learner Activities	Learners to do activities in pupil's book page 141.
Conclusion	Learners to pick, read and write numbers up to 20 in words.

Extended Learning: Learners to prepare cards with numerals and words using papers.Read them to their peers during play and to family members.

STRAND NUMBERS	**Specific Lesson Learning** Outcome By the end of the lesson, the learner should be able to work out missing numbers in patterns up to 100 in 2's.
SUB-STRAND WHOLE NUMBERS	**Key Inquiry Question:** How do you complete number patterns? **Suggested Learning Resources:** Cards with numerals, video clips, balloons, multipurpose communication board , multipurpose stamps, pen/pencil grips, book holders, page turners, universal cuff, head / mouth pointers, adapted LDDs/ICT devices

Introduction

Learners to count or point or sign number in 2's up to 80 both forward and backward.

Development

Teacher Activities	**Write:** 77, 79, 81, 83, _, 87 and 92, 90, 88, 86, _, 82, **Demonstrate:** Show learners how to identify the rule of the pattern and work out missing numbers in the pattern.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to work out missing numbers in patterns up to 100.
Learner Activities	Learners to do activities in pupil's book page 142.
Conclusion	Display an incomplete number pattern chart on the board, learners establish a rule for the pattern and then pick number cards from a box to complete the pattern.

Extended Learning: Learners to play digital games involving number patterns both in school and at home. Learners with motor difficulties and those with missing limbs could use alternative functional part of the body or appropriate assistive devices with assistance where necessary. Reduce light intensity (glare) for learners with epilepsy. **(Apply these adaptations to all subsequent activities involving digital games under whole numbers, fractions, additions, subtraction, multiplication and division substrands.**

STRAND NUMBERS	**Specific Lesson Learning** Outcome By the end of the lesson, the learner should be able to work out missing numbers in patterns up to 100 in 10's.
SUB-STRAND WHOLE NUMBERS	**Key Inquiry Question:** How do you complete number patterns? **Suggested Learning Resources:** Cards with numerals, video clips, number chart , multipurpose communication board , multipurpose stamps, pen/pencil grips, book holders, page turners, universal cuff, head /mouth pointers, adapted LDDs/ICT devices

Introductions

Learners to count or sign or point numbers in 5's up to 100 both forward and backward.

Development

Teacher Activities	**Write:** 20, 30, 40, 50, _, 70 and 80, 70, 60, 50, _, 30. **Demonstrate:** Show learners how to identify the rule of the pattern and work out the missing numbers in the patterns.
Teacher and Learners Activities	**Guide:** Learners in purposive pairs or groups to work out missing numbers in patterns up to 100.
Learner Activities	Learners to do activities in pupil's book page 143.
Conclusion	Learners to fill in missing numbers in number patterns up to 100.

Extended Learning: Learners to play games involving skip counting in 10's using bottle tops both in school and at home.

FRACTIONS

Background Information

In this sub-strand learners will be introduced to the fraction ½ and ¼ as part of a whole and as part of a group. Learners may however, have experiences from home where they have shared whole items like fruits, sweets or even bread.

It is from this background that the teacher can introduce a half (½) and a quarter (¼) as part of a whole using items like an orange, piece of stick, loaf of bread, circular and rectangular cut-outs. In introducing fractions as part of a group the teacher may use items like pebbles, marbles, straws, sticks, bottle tops or any other safe type of counter. Knowledge of sorting and grouping acquired in the earlier grade will be useful in this sub-strand. Leaners will also be expected to play digital games using LDD or any other IT devices.

The development of core competencies would be enhanced as learners work in purposive pairs or groups. The teacher should link the various components in the curriculum designs. These components include but are not limited to discussing issues like safety of materials being used (PCIs), values that can be nurtured such as unity, respect, patriotism and responsibility among others. The teacher should also involve learners in non-formal activities like sharing edible food items in halves and quarters in school. The teacher may also discuss how the concept on fractions is linked to Languages and Hygiene and Nutrition Activities. Learners may assist in sharing items in halves and quarters in community functions as a way of promoting learning outside the school.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to compare a half and a quarter as parts of a whole.
SUB-STRAND FRACTIONS	**Key Inquiry Question:** What is the difference between a half and a quarter of a whole? **Suggested Learning Resources:** Paper cut-outs, manila papers, masking tape, paper clips, adapted cutting tools

Introduction

Learners to identify half and a quarter as parts of a whole.

Development

Teacher Activities	**Demonstrate:** Show learners how to compare a half and a quarter as parts of a whole using equal size of circular paper cut-outs by folding.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups compare a half and a quarter by using circular paper cut-outs.
Learner Activities	Learners to do activities in pupil's book page 144.
Conclusion	Learners to compare a half and a quarter as parts of a whole.

Extended Learning: Learners to compare a half and a quarter as parts of a whole in school and at home.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to compare a half and a quarter as parts of a whole.
SUB-STRAND FRACTIONS	**Key Inquiry Question:** What is the difference between a half and a quarter? **Suggested Learning Resources:** Paper cut-outs, manila papers, masking tape, paper clips, adapted cutting tools

Introduction

Learners to compare a half and a quarter as parts of a whole using circular paper cut outs.

Development

Teacher Activities	**Demonstrate:** Show learners how to compare a half and a quarter as parts of a whole using equal size of rectangular paper cut-outs by folding.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to compare a half and a quarter by using retangular paper cut-outs.
Learner Activities	Learners to do activities in pupil's book page 145
Conclusion	Learners to compare a half and a quarter of a whole.

Extended Learning: Learners to compare a half and a quarter both in school and at home.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to form a half using quarters of a whole.
SUB-STRAND FRACTIONS	**Key Inquiry Question:** How do you form a half using parts of a whole? **Suggested Learning Resources:** Paper cut-outs of different sizes, felt pens, manila paper, masking tape,clips, cellotape (clear) paper glue

Introduction

Learners to answer questions on how they share whole items in school, at home and in the community.

Development

Teacher Activities	**Demonstrate:** Show learners how to form a half using quarters of circular paper cut-outs by pairing and sticking on manilla paper.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to form halves from quarters of circular paper cut-outs by pairing and sticking on a manila paper.
Learner Activities	Learners to do activities in pupil's book page 146.
Conclusion	Learners to display halves of a whole formed from quarters.

Extended Learning: Learners to form patterns of halves by combining quarters of different colours and sizes in the environment.

STRAND FRACTIONS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to identify ½ and ¼ as part of a whole.
SUB-STRAND ½ AND ¼	**Key Inquiry Question:** How do you identify ½ and ¼? **Suggested Learning Resources:** Paper cut-outs, felt pens, manila paper, glue

Introduction

Learners to represent a half and a quarter using ½ and ¼ .

Development

Teacher Activities	**Demonstrate:** Show learners how to differentiate ½ and ¼ using paper cut-outs.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to identify ½ and ¼ using assorted paper cut-outs and sticking on a manila paper.
Learner Activities	Learners to do activities in pupil's book page 147.
Conclusion	Learners to sort out halves and quarters.

Extended Learning: Learners to identify how ½ and ¼ as symbols are used in day to day activities in the environment.

ADDITION

Background Information

Addition of a 1 digit number to up to a 2-digit number without regrouping was covered in Grade One. Learners have also learnt how to work out missing numbers in patterns involving addition up to 100. This sub- strand will build on this knowledge to extend the addition of whole numbers. Learners will therefore be involved in the addition of up to two 2-digit numbers with regrouping from ones to tens. The teacher can search for digital games that involve addition and guide the learners in playing them.

The development of core competencies would be enhanced as learners work in purposive pairs or groups. The teacher should link the various components in the curriculum designs. These components include but are not limited to discussing issues like safety of materials being used (PCIs), values that can be nurtured such as unity, respect, patriotism and responsibility among others. The teacher should also involve learners in non-formal activities like planting flowers in patterns in school. The teacher may also discuss how the addition concept is linked to Environmental and Languages Activities. The teacher may organize visits to older citizen's homes for learners to assist them in working out the total number of different items in their homes as a way of extending learning outside the school.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to add a 2-digit number to a 2- digit number up to a sum of 100 without regrouping vertically.
SUB STRAND ADDITION	**Key Inquiry Question:** How do you add a 2-digit number to a 2- digit number? **Suggested Learning Resources:** Counters, basic addition facts table, place value apparatus, multipurpose communication board , multipurpose stamps, pen/pencil grips, book holders,page turners, universal cuff, head /mouth pointers, adapted LDDs/ICT devices

Introduction

Learners to add a 2 -digit number to a 2 -digit number up to a sum of 50.

Development

Teacher Activities	**Write:** 56 + 43 ___ **Demonstrate:** Show learners how to add 6 ones to 3 ones to get 9 ones and then write 9 in the ones place. Add 5 tens to 4 tens to get 9 tens then write 9 in the tens place. 56 + 43 99

Teacher and Learner Activities	**Write :** 63 +25 ___ **Guide:** Learners in purposive pairs or groups to work out 63 +25 ___
Learner Activities	Learners to do activities in pupil's book page 148.
Conclusion	Learners to add a 2-digit number to a 2 – digit number up to a sum of 100 without regrouping vertically.

Extended learning: Learners to practise addition of up to 2-digit numbers with their family members.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to add a 2-digit number to a 2- digit number with regrouping up to a sum of 100 horizontally.
SUB- STRAND ADDITION	**Key Inquiry Question:** How do you add a 2-digit number to a 2- digit number? **Suggested Learning Resources:** Counters, basic addition facts table, place value apparatus, multipurpose communication board multipurpose stamps, pen/pencil grips, book holders,page turners, universal cuff, head /mouth pointers, adapted LDDs/ICT devices

Introduction

Learners to add a 2 -digit number to a 2 -digit number up to a sum of 50.

Development

Teacher Activities	**Write:** 38 + 25 = ☐ **Demonstrate:** using place value chart show learners how to add 8 ones to 5 ones to get 13 ones, regroup 13 ones as 1 ten and 3 ones. Explain to the learners to write 3 in the ones place. Add the 1 ten to 3 tens and 2 tens to get 6 tens. Therefore 38 + 25 = 6
Teacher and Learner Activities	**Write :** 48 + 46 = ☐ **Guide:** Learners in purposive pairs or groups to work out 48 + 46.

Learner Activities	Learners to do activities in pupil's book page 149.
Conclusion	Learners to add a 2-digit number to a 2-digit number up to a sum of 100 with regrouping horizontally.

Extended learning: Learners to practise addition of up to 2-digit numbers with their family members.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to add a 2-digit number to a 2- digit number up to a sum of 100 with regrouping vertically.
SUB-STRAND ADDITION	**Key Inquiry Question:** How do you add a 2-digit number to a 2- digit number? **Suggested Learning Resources:** Counters, basic addition facts table, place value apparatus, multipurpose communication board , multipurpose stamps, pen/pencil grips, book holders,page turners, universal cuff, head / mouth pointers, adapted LDDs/ICT devices

Introduction

Learners to add a 2 -digit number to a 2 -digit number up to a sum of 50.

Development

Teacher Activities	**Write:** 69 + 24 ___ **Demonstrate:** Show learners how to add 9 ones to 4 ones to get 13 ones, regroup 13 ones as 1 ten and 3 ones. Explain to the learners to write 3 in the ones place. Add the 1 ten to 6 tens and 2 tens to get 9 tens. Write 9 in the tens place. $^{1}69$ + 24 **93**

Teacher and Learner Activities	**Write:** 67 + 14 ___ **Guide:** Learners in purposive pairs or groups to work out 67 + 14
Learner Activities	Learners to do activities in pupil's book page 150.
Conclusion	Learners to add a 2-digit number to a 2 – digit number up to a sum of 100 with regrouping vertically.

Extended learning: Learners to practise addition of up to 2-digit numbers with family members.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able work out missing numbers in patterns involving addition up to 100.
SUB-STRAND ADDITION	**Key Inquiry Question:** How do you work out missing numbers in patterns? **Suggested Learning Resources:** Counters, number line multipurpose communication board , multipurpose stamps, pen/pencil grips, book holders, page turners, universal cuff, head /mouth pointers, adapted LDDs/ICT devices

Introduction

Learners to add a 2 -digit numbers to a 1-digit number.

Development

Teacher Activities	**Write:** The pattern 44, 54, 64, 74, _____ . **Demonstrate:** Show learners how to work out the missing number in the pattern 44, 54, 64, 74, _____by adding 10 to a number to get the next number; 44 + 10 = 54, 54 + 10 = 64, 64 + 10 = 74, 74 + 10 = 84. The missing number is **84.** The pattern is 44, 54, 64, 74, **84**.
Teacher and Learner Activities	**Write:** The pattern 59, 62, 65, 68, ___, ___. **Guide:** Learners in purposive pairs or groups to work out missing numbers in the pattern 59, 62, 65, 68, ___, ___
Learner Activities	Learners to do activities in pupil's book page 151.
Conclusion	Learners to work out missing numbers in patterns involvin addition up to 100.

Extended learning: Learners to practise working out missing numbers in patterns with family members**.**

SUBTRACTION

Background Information

Subtraction was introduced in Grade One through practical activities as taking away. In Grade Two, subtraction of a 1 digit number from a 2-digit number based on basic addition facts is covered. The relationship between addition and subtraction as well as number patterns involving subtraction is also covered in Grade One. It is on this pre-requisite that the concept of subtraction of up to 2-digit numbers is developed. Missing numbers in patterns involving subtraction of up to 100 will also be taught under this sub strand. Teachers are encouraged to involve learners in playing digital games on subtraction.

The development of core competencies would be enhanced as learners work in purposive pairs or groups. The teacher should link the various components in the curriculum designs. These components include but are not limited to discussing issues like safety of materials being used (PCIs), values that can be nurtured such as unity, respect, patriotism and responsibility among others. The teacher should also involve learners in non-formal activities like collecting litter in the school compound. The teacher may also discuss how the subtraction concept is linked to Languages and Environmental Activities. Learners may participate in cleaning the environment organized by community members as a way of promoting learning outside the school.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to subtract a 2-digit number from a 2-digit number without regrouping horizontally.
SUB-STRAND SUBTRACTION	**Key Inquiry Question:** How do you subtract a 2-digit number from a 2-digit number? **Suggested Learning Resources:** Counters, place value apparatus, addition table, multipurpose communication board multipurpose stamps, pen/pencil grips, book holders, page turners, universal cuff, head /mouth pointers, adapted LDDs/ICT devices

Introduction

Learners to subtract a 1-digit number from a 2-digit number.

Development

Teacher Activities	**Write**: 37 - 14 = _____ . **Demonstrate:** Show learners how to work out 37 - 14 by subtracting 4 ones from 7 ones to get 3 ones then write 3 as ones. Subtract the tens as 3 -1 = 2 tens, write 2 as tens. Therefore 37 - 14 = 23.
Teacher and Learner Activities	**Write:** 86 - 25 = ____ . **Guide:** Learners in purposive pairs or groups to work out 86 - 25.
Learner Activities	Learners to do activities in pupil's book page 152.
Conclusion	Learners to subtract a 2-digit number from a 2-digit number without regrouping horizontally.

Extended learning: Learners to practise subtraction of a 2-digit number from a 2-digit number without regrouping with family members.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to subtract a 2-digit number from a 2-digit number without regrouping vertically.
SUB STRAND SUBTRACTION	**Key Inquiry Question:** How do you subtract a 2-digit number from a 2 -digit number? **Suggested Learning Resources:** Counters, place value apparatus, addition table, multipurpose communication board multipurpose stamps, pen/pencil grips, book holders, page turners, universal cuff, head /mouth pointers, adapted LDDs/ICT devices

Introduction Learners to subtract a 1 –digit number from a 2 –digit number.

Development

Teacher Activities	**Write**: 57 - 26 ____ **Demonstrate:** Show learners how to work out 57 - 26 by first subtracting the ones as 7 - 6 = 1 and write 1 in ones place, then the tens as 5 - 2 = 3 tens, write 3 in tens place. 57 - 26 **31**

Teacher and Learner Activities	**Write :** 88 - 42 _____ **Guide:** Learners in purposive pairs or groups to work out 88 - 42 .
Learner Activities	Learners to do activities in pupil's book page 153.
Conclusion	Learners to subtract a 2-digit number from a 2-digit number without regrouping vertically.

Extended learning: Learners to practise subtraction of a 2-digit number from a 2-digit number without regrouping with family members.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to subtract a 2-digit number from a 2-digit number using the relationship between addition and subtraction.
SUB-STRAND SUBTRACTION	**Key Inquiry Question:** How do you subtract a 2-digit from a 2-digit number using the relationship between addition and subtraction? **Suggested Learning Resources:** Counters, multipurpose communication board, multipurpose stamps, pen/pencil grips, book holders, page turners, universal cuff, head /mouth pointers, adapted LDDs/ICT devices

Introduction

Learners to add and subtract single digit numbers.

Development

Teacher Activities	**Write :** 25 + 34 = 59 and 34 + 25 = 59 59 - ☐ = 34 and 59 - ☐ = 25 **Demonstrate:** Show learners how to write the two subtraction facts. Explain to the learners that numbers 25, 34 and 59 are a number fact family.
Teacher and Learner Activities	**Write :** 61 + 15 = 76 and 15 + 61 = 76 **Guide:** Learners in purposive pairs or groups to use 61 + 15 = 76 and 15 + 61 = 76 to work out the related subtraction sentences.
Learner Activities	Learners to do activities in pupil's book page 154.
Conclusion	Learners to subtract a 2-digit number from a 2-digit numbers using the relationship between addition and subtraction.

Extended learning : Learners practise subtracting a 2-digit number from a 2-digit numbers using the relationship between addition and subtraction with family members.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to work out missing numbers in subtraction of a 2-digit number from a 2-digit number.
SUB STRAND SUBTRACTION	**Key Inquiry Question:** How do you work out missing numbers in subtraction? **Suggested Learning Resources:** Counters, multipurpose communication board , multipurpose stamps, pen/pencil grips, book holders, page turners, universal cuff, head /mouth pointers, adapted LDDs/ICT devices

Introduction

Learners to subtract a 1-digit number from a 2-digit number without regrouping.

Development

Teacher Activities	**Write**: ☐ -35 = 42. **Demonstrate:** Show learners how to work out the missing number in ☐ - 35 = 42 by adding the two given numbers as 35 + 42 to get 77. The missing number is **77.** ☐ – 35= 42
Teacher and Learner Activities	**Write**: ☐ - 53 = 31. **Guide:** Learners in purposive pairs or groups to work out the missing number in ☐ - 53 = 31.
Learner Activities	Learners to do activities in pupil's book page 155.
Conclusion	Learners to work out missing numbers in subtraction of a 2-digit number from a 2-digit number.

Extended learning: Learners to practise subtraction of a 2-digit number from a 2-digit with family members.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to work out missing numbers in patterns involving subtraction from 1 up to 100
SUB-STRAND SUBTRACTION	**Key Inquiry Question:** How do you work out missing numbers in patterns? **Suggested Learning Resources:** Counters, table of basic addition fact, multipurpose communication, board multipurpose stamps, pen/pencil grips, book holders, page turners, universal cuff, head /mouth pointers, adapted LDDs/ICT devices

Introduction

Learners to subtract a 1 –digit number from a 2 –digit number.

Development

Teacher Activities	**Write:** The pattern 79, 76, 73, _____ . **Demonstration:** Show learners how to work out the missing number in the pattern 79, 76, 73, _____ by subtracting 3 from a number to get the next number; 79 - 3 =76, 76 - 3 =73, 73- 3 = 70. The missing number is **70.** The pattern is 79, 76, 73, **70.**

Teacher and Learner Activities	**Write:** The pattern 87, 85, 83, ___. **Guide:** Learners in purposive pairs or groups to work out missing number in the pattern 87, 85, 83, ___ .
Learner Activities	Learners to do activities in pupil's book page 156.
Conclusion	Learners to work out missing numbers in patterns involving subtraction from 1 up to 100 .

Extended learning: Learners to practise working out missing numbers in patterns with family members.

MULTIPLICATION

Background Information

Multiplication is introduced in this level as repeated addition. In the modeling of these activities, the learners form groups with equal number of objects, then put them together and count to get the total number which is the answer to a multiplication question. The multiplication (×) sign is introduced in this grade. It is hoped that the teacher will use equal groups of objects a number of times to relate repeated addition with multiplication sentences. It is important to emphasize that the number of groups represent the first factor in the multiplication sentence while the other number represents the number of items in each of the groups.

The concept of repeated addition is further developed in this sub strand where learners are expected to multiply single digit numbers by numbers up to 10. Digital games on multiplication should be included to make the lesson interesting and for learners to link multiplication to everyday activities.

The development of core competencies would be enhanced as learners work in purposive pairs or groups. The teacher should link the various components in the curriculum designs. These components include but are not limited to discussing issues like safety of materials being used (PCIs), values that can be nurtured such as unity, respect, patriotism and responsibility among others. The teacher should also involve learners in non-formal activities like working out the total number of desks in their classroom through repeated addition. The teacher may also discuss how the multiplication concept is linked to Languages and Environmental Activities .Learners may visit older citizens and assist them in arranging items in groups of equal numbers as a way of promoting learning outside the school.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to multiply single digit numbers by 5
SUB STRAND MULTIPLICATION	**Key Inquiry Question:** How do you multiply single digit numbers by 5? **Suggested Learning Resources:** Counters, multipurpose communication board multipurpose stamps, pen/pencil grips, book holders, page turners, universal cuff, head /mouth pointers, adapted LDDs/ICT devices

Introduction
Learners to add single digit numbers.

Development

Teacher Activities	**Draw:** ΔΔΔΔΔΔΔ ΔΔΔ and ΔΔΔ and ΔΔΔ and ΔΔΔ and ΔΔΔ is ΔΔΔΔΔΔΔΔ 3 + 3 + 3 + 3 + 3 = 15 **Demonstrate:** Show learners that 5 groups with 3 objects each is written as 5 x 3 and to write the multiplication sentence as 5 x 3 = 15.
Teacher and Learner Activities	**Draw:** ΔΔ and ΔΔ and ΔΔ and ΔΔ and ΔΔ is ΔΔΔΔΔΔΔΔΔΔ 2 + 2 + 2 + 2 + 2 = 10 **Guide:** Learners in purposive pairs or groups to multiply single-digit numbers by 5.
Learner Activities	Learners to do activities in pupils book page 157.
Conclusion	Learners to multiply single digit numbers by 5.

Extended learning: Learners to practise how to multiply single digit numbers by 5 with family members.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to multiply single digit numbers by 10.
SUB STRAND MULTIPLICATION	**Key Inquiry Question:** How do you multiply single digit numbers by 10? **Suggested Learning Resources:** Counters, multipurpose communication board, multipurpose stamps, pen/pencil grips, book holders, page turners, universal cuff, head /mouth pointers, adapted LDDs/ICT devices

Introduction
Learners to add single digit numbers.

Development

Teacher Activities	**Draw** ΔΔ and ΔΔ and ΔΔ and ΔΔ and ΔΔ and ΔΔ and ΔΔ and ΔΔ and ΔΔ and ΔΔ 2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 = 20. **Demonstrate**: Show learners that 10 groups with 2 objects each is written as 10 x 2 and to write the multiplication sentence 10 x 2 = 20.
Teacher and Learner Activities	**Draw:** ΔΔΔ and ΔΔΔ and ΔΔΔ and ΔΔΔ and ΔΔΔ and ΔΔΔ and ΔΔΔ and ΔΔΔ and ΔΔΔ and ΔΔΔ 3 + 3 + 3 + 3 + 3 + 3 + 3 + 3 + 3 + 3 = 30. **Guide:** Learners in purposive pairs or groups to multiply single digit numbers by 10.
Learner Activities	Learners to do activities in pupil's book page 158.
Conclusion	Learners to multiply single digit numbers by 10.

Extended learning: Learners to practise how to multiply single digit numbers by 10 with family members.

DIVISION

Background Information

Division is introduced in this grade as equal sharing and equal grouping. However, it is not a new concept as learners have had experiences in their day to day life in school, at home or even during play. The division sign (÷) is also introduced in this grade. Learners may play digital games involving division as guided by the specific learning outcomes in the curriculum design for this grade.

The development of core competencies would be enhanced as learners work in purposive pairs or groups. The teacher should link the various components in the curriculum designs. These components include but are not limited to discussing issues like safety of materials being used (PCIs), values that can be nurtured such as unity, respect, patriotism and responsibility among others. The teacher should also involve learners in non-formal activities like planting seedlings in rows in the school compound. The teacher may also discuss how the division concept is linked to Languages and Environmental Activities. The Teacher may organize for a visit to a children's home and for learners to share edible items like fruits with them as a way of giving back to the community.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson the learner should be able to divide numbers up to 10 by 2, 3, 4 and 5 without remainder.
SUB-STRAND DIVISION	**Key Inquiry Question:** How can you divide numbers?
	Suggested Learning Resources: Balloons, counters, multipurpose communication board, multipurpose stamps, pen/pencil grips, book holders, page turners, universal cuff, head /mouth pointers, adapted LDDs/ICT devices

Introduction

Learners to share objects equally and to form groups with equal objects.

Development

Teacher Activities	**Write:** $8 \div 4 =$ ☐ and $10 \div 2 =$ ☐ **Demonstrate:** Show learners how to work out 8÷4 by equal sharing to get 2 each and 10÷2 by equal grouping to get 5 groups of equal counters. Therefore $8 \div 4 =$ 2 and $10 \div 2 =$ 5
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to divide numbers by equal sharing and by equal grouping. Learners to share their results with the other groups.
Learner Activities	Learners to do activities in pupil's book page 159.
Conclusion	Learners to ask and answer questions on division of numbers.

Extended Learning: Learners to practise sharing equally and putting objects into equal groups with family members.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to divide numbers up to 18 by 2, 3, 4, and 5 without remainder in real life.
SUB-STRAND DIVISION	**Key Inquiry Question:** How can you divide numbers? **Suggested Learning Resources:** Counters, multipurpose communication board multipurpose stamps, pen/pencil grips, book holders, page turners, universal cuff, head /mouth pointers, adapted LDDs/ICT devices

Introduction

Learners to divide numbers up to 10 by 2, 3, 4 and 5 without remainder.

Development

Teacher Activities	**Demonstrate:** Share 12 oranges equally among 3 pupils. How many oranges does each pupil get? Each pupil gets 4 oranges. Show learners how to construct the division sentence and work out 12 ÷ 3 **Write:** 12 ÷ 3 = 4.
Teacher and Learner Activities	**Write:** Fifteen bottles were put into boxes. Each box had five bottles. How many boxes were used? **Guide:** Learners in purposive pairs or groups change word tasks to numerical division sentences and work them out. Learners to share their work with other groups.
Learner Activities	Learners to do activities in pupil's book page 160.
Conclusion	Learners to work out word tasks involving division.

Extended Learning: Learners to work out word tasks on division with family members.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson the learner should be able to divide numbers up to 25 by 2, 3, 4 and 5 without remainder in real life.
SUB-STRAND DIVISION	**Key Inquiry Question:** How can you divide numbers?
	Suggested Learning Resources: Counters, multipurpose communication board, multipurpose stamps, pen/pencil grips, book holders, page turners, universal cuff, head /mouth pointers, adapted LDDs/ICT devices

Introduction

Learners to divide numbers up to 18 by 2, 3, 4 and 5 without remainder.

Development

Teacher Activities	**Draw: Write:** 12 ÷ 3 = ____ and 20 ÷ 5 = _____ . Demonstrate : Show learners how to work out 24 ÷ 3 by equal sharing to get 8. Show how to work out 20 ÷ 5 by equal grouping to get 4.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to divide given numbers. Learners to share their work with other groups.
Learner Activities	Learners to do activities in pupil's book page 161.
Conclusion	Learners to work out questions on division.

Extended Learning: Learners to relate equal sharing and equal grouping to situations in the community.

MEASUREMENT

GENERAL LEARNING OUTCOME

The learner should be able to apply measurement skills to final solutions to problems in a variety of contexts.

LENGTH

Background Information

The development of the concepts under measurements follows clearly defined stages. In earlier grades, under the sub strand on length, learners compare lengths of objects directly, measure length using arbitrary units and finally measure length using fixed arbitrary units. In this sub-strand learners will be expected to identify the metre as a unit of measuring length and measure length in metres. The teacher should therefore involve learners in measuring activities using the metre stick.

The development of core competencies would be enhanced as learners work in purposive pairs or groups. The teacher should link the various components in the curriculum designs. These components include but are not limited to discussing issues like safety of materials being used (PCIs), values that can be nurtured such as unity, respect, patriotism and responsibility among others. The teacher should also involve learners in non-formal activities like measuring lengths of fields in school during games. The teacher may also discuss how the length concept is linked to Languages and Environmental Activities. Learners may assist their neighbours to measure length during building of chicken or rabbit cages among others as a way of promoting learning outside the classroom.

STRAND MEASUREMENT	**Specific Lesson Learning Outcome** By the end of the lesson the learner should be able to make a 1-metre stick and use it to measure length.
SUB-STRAND LENGTH	**Key Inquiry Question:** How do you measure length? **Suggested Learning Resources:** Sticks, a metre rule, multipurpose communication board , multipurpose stamps, pen/pencil grips, book holders, page turners, universal cuff, head /mouth pointers, adapted LDDs/ICT devices

Introduction

Learners to share orally or sign or point their experience in measuring length using different objects.

Development

Teacher Activities	**Demonstrate:** Show learners how to make a 1 metre stick using the metre rule and use it to measure length.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to make 1 metre sticks using the metre rule and use them to measure the length of the longer side of the teacher's table. Learners to share their findings with the other groups.Learners with speech difficulties could use residual speech or sign or point or use communication board. Peers could also report their views or be assisted by teacher or teacher aide.
Learner Activities	Learners to do activities in pupil's book page 162. For learners with brittle bone care and safety should be observed by giving them lighter activities.
Conclusion	Learners to measure length of the longer side of the pupil's desk using the 1 metre stick.

Extended Learning: Learners to use the 1 metre stick to measure length with family members.Learners with motor difficulties and those with missing limbs could use alternative functional parts of their body or appropriate assistive devices with assistance where necessary.

NOTE: Adaptation in these learning activities apply to all the subsequent activities under Length, Mass, Capacity, Time , Money, and Shapes. However, besides these adaptations, other adaptations have also been made under specific learning activities.

STRAND MEASUREMENT	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to measure length in metres.
SUB-STRAND LENGTH	**Key Inquiry Question:** How do you measure length? **Suggested Learning Resources:** Ropes, strings and metre rule multipurpose communication board , multipurpose stamps, pen/pencil grips, book holders, page turners, universal cuff, head /mouth pointers, adapted LDDs/ICT devices

Introduction

Learners to measure length using 1metre sticks.

Development

Teacher Activities	**Demonstrate:** Show learners how to make 1 metre strings and ropes using the metre rule and use them in measuring the length of the longer side of the classroom.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to make 1 metre strings and ropes and use them to measure different length. Learners to share their findings with the other groups.
Learner Activities	Learners to do activities in pupil's book page 163.
Conclusion	Learners to use the 1 metre strings or ropes to measure length of the classroom window.

Extended Learning: Learners to use the 1 metre strings or ropes to measure different lengths with family members.

MASS

Background Information

The development of the concepts under measurements follows clearly defined stages. In earlier grades, under the sub-strand on mass, learners compare mass of objects directly, measure mass using arbitrary units and finally measure mass using fixed arbitrary units.

In this sub strand learners will be expected to identify the kilogram as a unit of measuring mass and measure mass in kilograms. The teacher should therefore involve learners in making 1 kilogram mass using a beam balance.

The development of core competencies would be enhanced as learners work in purposive pairs or groups. The teacher should link the various components in the curriculum designs. These components include but are not limited to discussing issues like safety of materials being used (PCIs), values that can be nurtured such as unity, respect, patriotism and responsibility among others. The teacher should involve learners in non-formal activities like measuring mass of items in their classroom in kilograms during their free time. The teacher may also discuss how the concept of mass is linked to Languages and Environmental Activities. Learners may assist their neighbours in measuring mass of items in their homes in kilograms as a way of promoting learning outside the classroom.

STRAND MEASUREMENT	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to compare mass using 1 kg mass.
SUB-STRAND MASS	**Key Inquiry Question:** How do you compare the mass of two objects? **Suggested Learning Resources:** 1 kg mass, exercise books, textbooks, pieces of chalk

Introduction
Learners to compare mass of objects using heavier than, lighter than or same as.

Development

Teacher Activities	**Demonstrate:** Using a beam balance, show learners how to compare the mass of a text book with that of a 1 kg mass using the words heavier than, lighter than or same as.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to compare mass of objects with the 1 kg mass using a beam balance. Learners to use the words heavier than, lighter than or same as and share the results with the other groups.
Learner Activities	Learners to do activities in pupil's book page 164.
Conclusion	Learners to classify objects such as text books and bags as 'heavier than', 'lighter than' or 'same as' the 1 kg mass.

Extended Learning: Learners to compare the mass of objects with 1 kg mass at home.

STRAND MEASUREMENT	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to measure mass in kilogrammes.
SUB-STRAND MASS	**Key Inquiry Question:** How do you measure mass? **Suggested Learning Resources:** 1kg mass, sand, soil, box of chalk, seeds, multipurpose communication board, head/mouth pointers, book holders, page turners,adapted LDDs/ICT devices , pen/pencil grip,number stamps,universal cuffs

Introduction

Learners to compare mass of objects with the 1 kilogram mass in the classroom.

Development

Teacher Activities	**Demonstrate:** Using a beam balance, show learners how to measure 1kg of sand.
Teacher and Learner Activities	**Guide:** Learners in purposive pairs or groups to measure 1 kg mass of different items such as sand , soil and seeds using a 1kg mass and a beam balance. Learners to compare their 1 kg mass with those of other groups. Learners with speech difficulties could use residual speech or sign or type or write or point of use communication board.Peers could report their views.
Learner Activities	Learners to do activities in pupil's book page 165.
Conclusion	Learners to measure mass of different items in kilogrammes.

Extended Learning: Learners to assist in measuring mass in kilogrammes at home and in the community.

CAPACITY

Background Information

The development of the concepts under measurements follow clearly defined stages. In earlier grades, under the sub strand on capacity, learners compare capacity of containers directly through filling and emptying using water, measure capacity of containers using arbitrary units and finally measure capacity of containers using fixed arbitrary units. In this sub-strand learners will be expected to identify the litre as a unit of measuring capacity and measure capacity in litres. The teacher should therefore involve learners in measuring activities using 1 litre container.

The development of core competencies would be enhanced as learners work in purposive pairs or groups. The teacher should link the various components in the curriculum designs. These components include but are not limited to discussing issues like safety of materials being used (PCIs), values that can be nurtured such as unity, respect, patriotism and responsibility among others. The teacher should involve learners in non-formal activities like measuring capacity of containers in their classroom in litres during their free time. The teacher may also discuss how capacity is linked to Languages and Environmental Activities. As a way of promoting learning outside the classroom, learners may assist their neighbours at home in measuring capacity of containers used for storing liquids.

STRAND MEASUREMENT	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to measure capacity in litres.
SUB-STRAND CAPACITY	**Key Inquiry Question:** How do you measure how much a container holds?
	Suggested Learning Resources: Pot, 1 litre can, bucket, basin, multipurpose communication board, multipurpose stamps, pen/pencil grips, book holders, page turners, universal cuff, head /mouth pointers, adapted LDDs/ICT devices

Introduction

Learners to share orally or point or sign their experiences on items measured in litres.

Development

Teacher Activities	**Demonstrate**: Fill a pot using a 1 litre tin and count the number of tins that fill the pot. Explain to the learners that the number of tins is the capacity of the pot in litres.
Teacher and Learner Activities	**Guide**: Learners in purposive pairs or groups to fill a bucket and a basin using a 1 litre tin. Record the number of tins used to fill each container. Learners to share findings with the other groups.
Learner Activities	Learners to do activities in pupil's book page 166.
Conclusion	Learners to measure capacity of containers in litres.

Extended Learning: Learners to measure capacity of containers in litres at home.

STRAND MEASUREMENT	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to measure capacity in litres.
SUB-STRAND CAPACITY	**Key Inquiry Question:** How do you measure how much a container holds? **Suggested Learning Resources:** 1 litre tin, basin, bucket, Jerrycan

Introduction
Learners to share orally or sign or point their experiences on items measured in litres.
Development

Teacher Activities	**Demonstrate**: Show learners how to find the capacity of a jerrycan using 1 litre tin by counting the number tins used to fill the jerrycan. Explain to the learners that the number recorded is the capacity of the jerrycan in litres.
Teacher and Learner Activities	**Guide**: Learners in purposive pairs or groups to fill a bucket, jerrycan and a basin using 1 litre tin. Record the number of tins used to fill each container. Learners to share findings with other groups.
Learner Activities	Learners to do activities in pupil's book page 167.
Conclusion	Learners to measure capacity of containers in litres.

Extended Learning: Learners to measure capacity of containers in litres at home.

TIME

Background Information

The concept of time is introduced by relating daily activities to different times of the day like morning, noon, evening and night while the days and months of the year are related to the various activities done in a particular day or month. Time just like other measurements is first measured using arbitrary units before using the standard units that is hours, minutes and seconds. In this sub-strand, learners will be introduced to the clock face as well as read and tell time by the hour using both the analogue and digital clocks.

The development of core competencies would be enhanced as learners work in purposive pairs or groups. The teacher should link the various components in the curriculum designs. These components include but are not limited to discussing issues like safety of materials being used (PCIs), values that can be nurtured such as unity, respect, patriotism and responsibility among others. The teacher should involve learners in non-formal activities like cleaning their classroom during free time. The teacher may also discuss how the time concept is linked to Environmental, Languages and Religious Activities. As a form of community service learning, learners could assist their neighbours in keeping their compounds clean during school holidays.

STRAND MEASUREMENT	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to read and tell time by the hour on the digital clock.
SUB-STRAND TIME	**Key Inquiry Question:** How do you tell time?
	Suggested Learning Resources: Digital clocks, multipurpose communication board multipurpose stamps, pen/pencil grips, book holders,page turners, universal cuff, head /mouth pointers, adapted LDDs/ICT devices

Introduction:
Learners to share orally or sign or point experiences on how they tell time.
Development

Teacher Activities	**Draw:** A clock face indicating time by the hour. **Demonstrate**: Show the learners how to tell time by the hour using a digital clock.
Teacher and Learner Activities	**Guide**: Learners in purposive pairs or groups to tell time by the hour using a digital clock. Learners to share their findings with other groups.
Learner Activities	Learners to do activities in pupil's book page 168.
Conclusion	Learners to tell time by the hour on a digital clock.

Extended Learning: Learners to tell or point or sign time by the hour using digital clocks at home.

STRAND MEASUREMENT	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to read, tell and write time by the hour on the analogue clocks.
SUB-STRAND TIME	**Key Inquiry Question:** How do you tell time? **Suggested Learning Resources:** Analogue clock, multipurpose communication board, multipurpose stamps, pen/pencil grips, book holders,page turners, universal cuff, head /mouth pointers, adapted LDDs/ICT devices

Introduction:
Learners to share orally or sign or point experiences in telling time using clocks.
Development

Teacher Activities	**Draw:** Analogue l clock face showing time by the hour and write 1 O'clock. **Demonstrate**: Show learners how to tell and write time by the hour on an analogue clocks at 1 O'clock.
Teacher and Learner Activities	**Guide**: Using the analogue clock, learners in purposive pairs or groups to tell and write time by the hour. Learners to share their experiences with other groups.
Learner Activities	Learners to do activities in pupil's book page 169.
Conclusion	Learners to tell and write or stamp or mount or type time by the hour on an analogue clock.

Extended Learning: Learners to tell or sign or point and write or stamp or mount or type time by the hour using analogue and digital clocks in daily life.

MONEY

Background Information

The teaching of money begins with the learners being guided to identify the different currency coins and notes. In Grade One learners perform shopping activities which lead to differentiating goods and services as well as needs and wants. In this sub-strand the money concept is developed further where learners are also taught about needs and wants as well as spending and saving which learners need to understand to be able to make meaningful decisions on money issues.

The development of core competencies would be enhanced as learners work in purposive pairs or groups. The teacher should link the various components in the curriculum designs. These components include but are not limited to discussing issues like safety of materials being used (PCIs), values that can be nurtured such as unity, honesty, responsibility among others. As a non-formal activity learners may assist the school clerk in sorting coins and notes according to their value. The teacher may also discuss how the money concept is linked to Languages, Environmental and Religious Activities. As a community service activity to support learning, learners may assist in counting money offered in religious and non-religious functions.

STRAND MEASUREMENT	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to relate money to goods and services in real life
SUB-STRAND MONEY	**Key Inquiry Question:** How do you tell time? **Suggested Learning Resources:** Pictures , newspaper cut-out of goods and services, multipurpose communication board multipurpose stamps, pen/pencil grips, book holders,page turners, universal cuff, head /mouth pointers, adapted LDDs/ICT devices

Introduction:
Learners to share orally or sign or point their experiences in spending money.
Development

Teacher Activities	**Demonstrate:** Show learners pictures and newspaper cut-outs on goods and services and explain the price attached to each. **Draw:** Write on the board the items and their corresponding prices
Teacher and Learner Activities	**Guide**: Learners in purposive pairs or groups to role play use of money in shopping activities and paying for services.
Learner Activities	Learners to do the activities in pupil's book page 170.
Conclusion	Learners to relate money with the goods they buy and service they pay for.

Extended Learning: Learners to participate in shopping activities and getting services in the community.

STRAND MEASUREMENT	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to represent the same amount of money in different denominations.
SUB-STRAND MONEY	**Key Inquiry Question:** How do you represent the same amount of money in different forms? **Suggested Learning Resources:** Real money in notes and coins, multipurpose communication board, multipurpose stamps, pen/pencil grips, book holders, page turners, universal cuff, head /mouth pointers, adapted LDDs/ICT devices

Introduction
Learners to share orally or sign or point their experiences with money in different denominations.
Development

Teacher Activities	**Demonstrate:** Show learners how to represent 50 shillings and 100 shillings in different denominations. **Write:** 50 shillings and its equivalent in different denominations. Do the same for 100 shillings. Explain to the learners that the value does not change.
Teacher and Learner Activities	**Guide**: Learners in purposive pairs or groups to represent a given amount of money in different denominations. Explain to the learners that this is change.
Learner Activities	Learners to do activities in pupil's book page 171.
Conclusion	Learners to ask and answer questions on giving and receiving change.

Extended Learning: Learners to assist their parents in getting and giving change.

GEOMETRY

GENERAL LEARNING OUTCOME

The learner should be able to decribe properties of geometrical shapes and spatial relationships in real life experiences.

LINES

Background Information

The learning of geometry starts with the learners modeling straight and curved lines. In Grade One, learners model these lines through different activities. In this sub-strand, the straight lines and curved lines concept is developed further.

The development of core competencies would be enhanced as learners work in purposive pairs or groups. The teacher should link the various components in the curriculum designs. These components include but are not limited to discussing issues like safety of materials being used (PCIs), values that can be nurtured such as unity, respect, patriotism and responsibility among others. The teacher should involve learners in non-formal activities like arranging seats in straight or curved formations in the classroom. The teacher may also discuss how the line concept is linked to Movement and Creative and Environmental Activities. As a community service activity to support learning, learners may assist in arranging seats in straight and curved formations in community functions.

STRAND GEOMETRY	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to make curved lines.
SUB-STRAND LINES	**Key Inquiry Question:** How do you make curved lines? **Suggested Learning Resources:** A piece of hose pipe,plasticine, clay, papier marché, rope string, multipurpose communication board multipurpose stamps, pen/pencil grips, book holders, page turners, universal cuff, head /mouth pointers, adapted LDDs/ICT devices

Introduction
Learners to draw or sign curved lines in the air**.**
Development

Teacher Activities	**Demonstrate:** Show learners how to make curved lines using paper Marché or clay or plasticine or baking dough or a piece of hose pipe or string or rope.
Teacher and Learner Activities	**Guide**: Learners in purposive pairs or groups to make curved lines using paper Marché or clay or plasticine or baking dough or a piece of hose pipe.
Learner Activities	Learners to do activities in pupil's book page 172.
Conclusion	Learners to display and discuss curved lines made during the lesson.

Extended Learning: Learners to make or mount curved lines in school, at home and in the community.

STRAND GEOMETRY	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to draw curved lines.
SUB-STRAND LINES	**Key Inquiry Question:** How do you draw curved lines? **Suggested Learning Resources:** A piece of rope, masking tape, sticks, bottles ,crayons, chalk and charcoal, multipurpose communication board, multipurpose stamps, pen/pencil grips, book holders, page turners, universal cuff, head /mouth pointers, adapted LDDs/ICT devices

Introduction
Learners to draw or sign curved lines in the air.
Development

Teacher Activities	**Demonstrate:** Show learners how to drawor mount or stamp curved lines using pieces of stick, crayons or chalk or charcoal.
Teacher and Learner Activities	**Guide**: Learners in purposive pairs or groups draw curved lines using pieces of sticks or crayons or chalk or charcoal.
Learner Activities	Learners to do activities in pupil's book page 173.
Conclusion	Learners to draw or stamp or mount curved lines in their exercise books.

Extended Learning: Learners to practise drawing or stamping or mounting curved lines in school, at home and in the community.

SHAPES

Background Information

Learners start interacting with different shapes found at home and also in the environment before they come to school. In school they start learning about shapes through the sorting and grouping activities. In Grade One learners also learnt how to make patterns using three shapes.

In this sub-strand the concept of shapes is further developed and learners may pick it up and get involved in making patterns on cloths or belts as a business venture in their free time later in life.

The development of core competencies would be enhanced as learners work in purposive pairs or groups. The teacher should link the various components in the curriculum designs. These components include but are not limited to discussing issues like safety of materials being used (PCIs), values that can be nurtured such as unity, respect, patriotism and responsibility among others. The teacher should involve learners in non-formal activities like making patterns and sticking them on classroom walls for beauty. The teacher may also discuss how patterns are linked to Movement and Creative and Environmental Activities. Learners could visit children's homes and beautify their walls with patterns drawn on paper as a way of community service learning.

STRAND GEOMETRY	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to make patterns using circles,triangles, rectangles, ovals and squares.
SUB-STRAND SHAPES	**Key Inquiry Question:** How do you make patterns using shapes? **Suggested Learning Resources:** Paper cut-outs of circles, triangles, rectangles, ovals and squares of different sizes and colour. masking tape, paper glue

Introduction
Learners to identify different shapes.
Development

Teacher Activities	**Demonstrate:** Using paper cut-outs of different shapes show learners how to make patterns. Draw rectangle, oval, rectangle,oval… Draw circle, square, triangle, circle, square, triangle… Draw triangle, circle, square, oval, triangle, circle, square, oval...
Teacher and Learner Activities	**Guide**: Learners in purposive pairs or groups to make patterns using paper cut-outs of circles, triangles, rectangles, ovals and squares on a manila paper.
Learner Activities	Learners to do activities in pupil's book page 175.
Conclusion	Learners to display the patterns made in the learners' corner.

Extended Learning: Learners to make or mount or stamp patterns and stick them on walls in class and at their homes.

TERM 3
WORK TO DO ANSWERS

Week 1 Lesson1

The teacher to listen to and observe as learners read or point or sign the numbers.

Week 1 Lesson2

b. 73 c. 81 d. 100

Week 1 Lesson 3

Counting forward by 10: 11, 21, 31, 41, 51, 61, 71, 81, 91.

Counting backward by 10: 91, 81, 71, 61, 51, 41, 31, 21, 11.

Week 1 Lesson 4

2.0 Hundreds 8 Tens 1 Ones

3.0 Hundreds 9 Tens 7 Ones

4.1 Hundreds 0 Tens 0 Ones

Week 1 Lesson 5

The teacher to listen to and observe as learners read or point or sign and write or type or stamp or mount the numbers.

Week 2 Lesson 1

1. 16 2. Seventeen 3. Eighteen 4. Nineteen

5. 206. Fifteen

Week 2 Lesson 2

1. 58 2. 77 3. 92 4. 81 5.67 6. 40

Week 2 Lesson 3

1. 802. 60 3. 55 4. 55 5. 50 6. 30

Week 2 Lesson 4

1. A half 2. A quarter

Week 2 Lesson 5

1. A half 2. A quarter

Week 3 Lesson 1

Teacher to accept any halves made of paper cut-outs.

Week 3 Lesson 2

1. ¼ 2. ½ 3. ½ 4. ¼

Week 3 Lesson 3

1.79 2. 78 3. 78 4. 94 5. 79

Week 3 Lesson 4

1.65 2. 90 3. 63 4. 95 5. 1006. 93

Week 3 Lesson 5

1. 92 2. 93 3. 83 4. 90 5. 90 6. 61

Week 4 Lesson 1

1. 50 2. 64 3. 99 4. 81 5. 30 6. 15

Week 4 Lesson 2

1.11 2. 25 3. 32 4. 12 5. 44 6. 24

Week 4 Lesson 3

1. 22 2. 18 3. 54 4. 8 5. 43 6. 62

Week 4 Lesson 4

1. 45; 32; 32 2. 39; 39,39; 18;213. 79; 79; 33; 46

4. 99; 99; 42

Week 4 Lesson 5

1.68 2. 55 3. 76 4. 86 5. 88 6. 23

Week 5 Lesson 1

1.51 2. 40, 35 3. 50, 40 4. 80

Week 5 Lesson 2

1. 5 2. 10 3. 15 4. 20 5. 25 6. 30

7. 35 8. 40 9. 45

Week 5 Lesson 3

1.10 2. 20 3. 30 4. 40 5. 50 6. 60

7. 70 8. 80 9. 90

Week 5 Lesson 4

1. 2 2. 3 3. 4 4. 2

Week 5 Lesson 5

2. 6 2. 2 3. 5 4. 3

Week 6 Lesson 1

1. 7 2. 12 3. 3 4. 5 5. 5 6. 5

Week 6 Lesson 2

The answers in this activity will depend on the lengths of the classroom window, longer side of the classroom; and the arbitrary units used.

Week 6 Lesson 3

The answers in this activity will depend on the lengths of shorter side of the classroom the teacher's table; and the arbitrary units used.

Week 6 Lesson 4

1.Lighter than 2. Heavier than 3. Lighter than 4. Same as

Week 6 Lesson 5

The answers in this activity will depend on the mass of the objects being measured.

Week 7 Lesson 1

The answers in this activity will depend on the number of 1litre tins that will fill the containers.

Week 7 Lesson 2

The answers in this activity will depend on the number of 1litre tins that will fill the containers.

Week 7 Lesson3

1.3 2. 8 3. 12 4. 10 5. 2 6. 1

Week 7 Lesson 4

1.5 O'clock 2. 12 O'clock 3. 6 O'clock

Week 7 Lesson 5

1.Service 2. Good 3. Good 4. Service 5. Service 6. Good

Week 8 Lesson 1

1.2 2. 1, 5 3. 4, 2/3, 4/ 2, 6/ 1, 8 4. 5

Week 8 Lesson 2

Any made or stamped or mounted curved lines.

Week 8 Lesson 3

1. Any letters of the alphabet written or stamped or typed or mounted in a curved formation.

2. Any numbers written or stamped or typed or mounted in a curved formation.

Week 8 Lesson 4

A, B, D, F, K,

Week 8 Lesson 5

Any pattern made of squares, triangles, circles, rectangles and ovals using paper cut-outs.

TERM 3
I CAN DO ANSWERS

1. Teacher to listen or observe as learners read or sign or point the number
2. 16
3. Teacher to listen or observe as learners count or sign or point numbers forward
4. Teacher to listen or observe as learners count or sign or point numbers backward
5. 0 hundred 8 tens 4 ones
6. 15
   Learner to draw or stamp or mount 18 objects
7. 74
8. 89
9. C
10. 65
11. 94
12. 77
13. 60
14. 77, 87
15. 21
16. 63
17. 15, 15
    16, 9
18. 42
19. 24, 28
20. 23
21. 6
22. 4
23. 12
24. 15
25. 8
26. 10
27. 4
28. 3 , 2
    5, 6
    3, 6
29. Shorter than
    Same as
    Longer than

30. Heavier than

Lighter than

31. Same as

Heavier than

Same as

Lighter than

32. Glass

33. Bottle

34. Same as

35. 3 O'clock

11 O'clock

7 O'clock

36. 12:00

37. Friday

Thursday

Sunday

Saturday

Wednesday

38. Service

Good

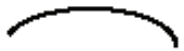
Service

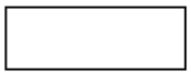
Good

39. 4

2

2, 1

40.  Any curved line

41. 

Appendix 1

Sample Scheme of Work

SCHOOL	Grade	Learning area	Term	YEAR

LEARNING AREA.....

Week	Lesson	Strand	Sub-strand	Specific learning outcome	Key inquiry Question.	Learning experiences	Learning resources	Assessment	Reflections

Appendix 2

LESSON PLAN TEMPLATE

SCHOOL	GRADE	DATE	TIME	ROLL

Strand……

Sub-strand……

Specific Learning Outcome……

Key Inquiry Question ……

Core competencies be developed……

PCIs……

Values……

Learning Resources……

Organization of learning……

Introduction (Assessment for Learning)……

……

Lesson development (Assessment as Learning)

Step

1……

2……

3……

Conclusion (Assessment of Learning)

……

Summary……

……

Extension Activities – non formal activities or communities service learning……

Reflection on the lesson

Appendix 3

INDIVIDUALIZED EDUCATION PROGRAMME

A. BIO DATA

I. Name of child……..

II. Date of birth…… Age……

III. Grade……...

IV. Admission number……..

V. Parent / Guardian

Name……...

VI. Parent/Guardian occupation ……....

VII. Parent/Guardian's contact ……..

B. IEP area of focus ……..

C. Present level of Performance

Summary of strengths and weaknesses

Strengths

1.
2.
3.
4.

Weaknesses

1.
2.
3.

4.

Initial Recommendation(s)……

D. Learning outcomes

Long term learning outcome (usually one)

Short term learning outcomes (can be more than one)

1.

2.

3.

E. **Learning Experiences/ Activities**

F. **Evaluation modalities**

……..

……..

Evaluation Tool ……

Interpretation (Analysis of the results) ……..

By who ……..

G. **Other professionals to involve**

H. **IEP Implementation**

I. Time frame: Start date…… End date ……

Review Date……..

J. **Evaluation Report**

K. **Challenges**

1. **……**
2. **……**
3. **……**
4. **……**

L. **Conclusion and Final Recommendations**

MATHEMATICS

TEACHER'S GUIDE GRADE 2

The teachers' guide for grade 2 enable the teacher to use the learner's book effectively. The book has provided a variety of activities and strategies that learners should be involved in for them to develop various competencies and values.

The teachers' guide also provides answers to all the exercises in the learner's book.

This book has been developed by a team of experts from the Kenya Institute of Curriculum Development (KICD), Kenya Institute of Special Education (KISE), Ministry of Education (MoE), Primary Education Development Project (PRIEDE), Teachers Service Commission (TSC) Centre for Mathematics Science and Technology Education in East Africa (CEMASTEA).

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