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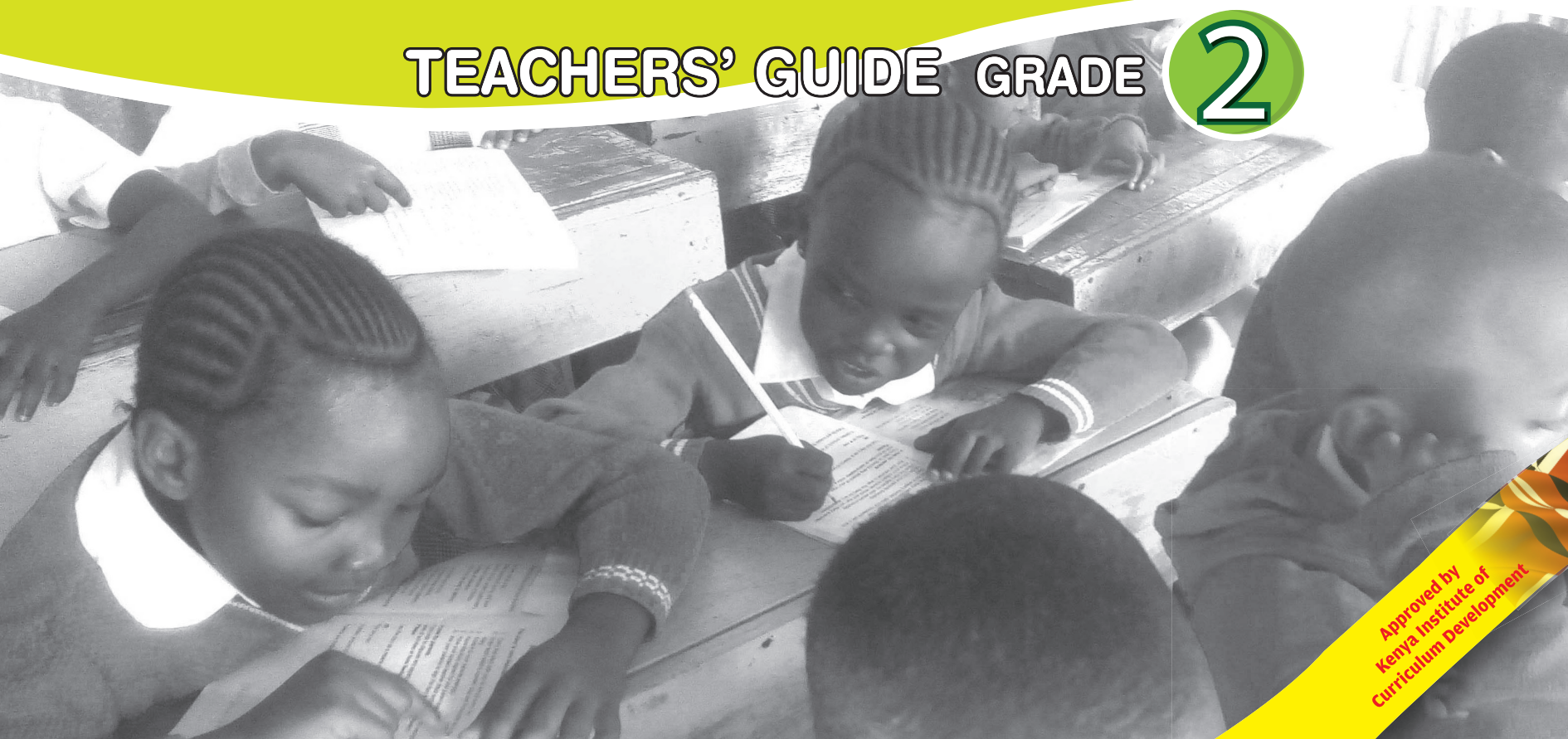
MATHEMATICS

TEACHERS' GUIDE GRADE 2



Approved by
Kenya Institute of
Curriculum Development

MATHEMATICS
TEACHERS' GUIDE
GRADE 2

MINISTRY OF EDUCATION

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Foreword

The focus of education in any country is the provision of quality and inclusive education and training to all its citizens. The Government of Kenya is committed to this goal as one of the Sustainable Development Goals (SDGs), 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. These documents include *Vision 2030*, *the National Education Sector Strategic Plan 2018 – 2022 (NESSP)* and *Sessional Paper No. 1 of 2019*.

It is the focus of the Government to ensure maintenance and improvement of quality of 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 reforms is to make education in Kenya competitive internationally and socio-economically viable. The Government seeks to ensure that education strives to stimulate innovation and enhance the acquisition of 21st Century skills.

The Ministry of Education, 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 teacher's guide 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 children can perform arithmetic operations accurately and efficiently. .

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

Preface

The goal of the Ministry of Education is to provide quality education to all learners irrespective of their socio-economic and physical status. Over time, 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 Competency Based Curriculum is on the provision of quality education and relevance.

Research initiatives such as National Assessment Monitoring Learning Achievement (NASMLA) and Southern and Eastern Africa Consortium for Monitoring Education Quality (SACMEQ) indicate the need for improved achievement in literacy and numeracy competencies. 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.

The Ministry has had an increasing focus on the quality of education in lower primary, particularly in the areas of literacy and numeracy. The Early Grade Mathematics component of the Kenya GPE's 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 teacher's guide 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. The guide aims at helping the teacher to aid learners to achieve quality learning outcomes and carry out effective assessments.

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

Acknowledgements

This teacher's guide as a result of the generous financial support from the Global Partners in Education (GPE). The guide 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, 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 development process of this guide .

Special recognition to MoE Director General Elyas Abdi, PRIEDE Project National Coordinator Martha Ekirapa, and KICD Senior Deputy Director Jacqueline Onyango for their outstanding support to the team during the process of the adaptation of this book. 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 development of the content of this guide.

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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 and 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.

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 :

By the end of this strand, the learner should be able to demonstrate mastery of number concepts by working out problems in day to day life.

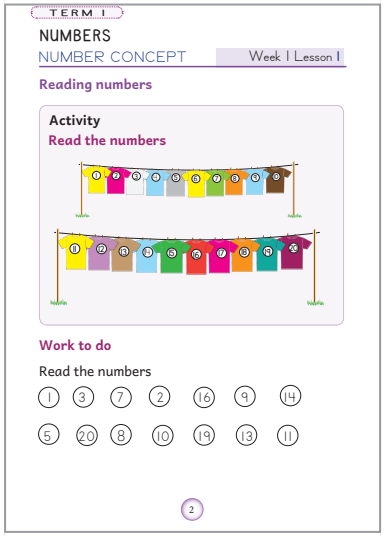
NUMBER CONCEPT

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 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 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 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


TERM 1
NUMBERS
NUMBER CONCEPT Week 1 Lesson 1
Reading numbers
Activity
Read the numbers
Work to do
Read the numbers
1 3 7 2 16 9 14
5 20 8 10 19 13 11
2

Introduction

Learners to sing 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 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 songs involving numbers in school and at home, for example during play activities.

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to read 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

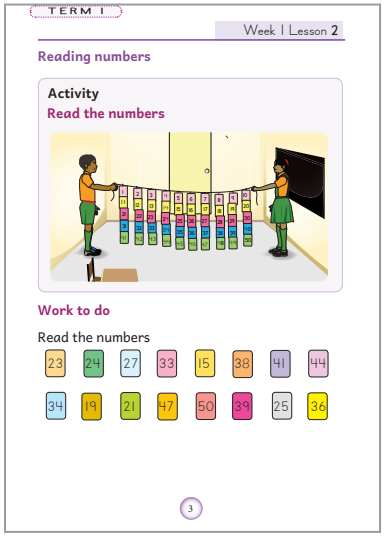
Introduction

Learners to sing 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 pairs or groups to read numbers 1 up to 50 in symbols. Learners watch a video on counting numbers.
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 page numbers in textbooks, religious books at school and at home.


TERM 1

Week 1 Lesson 2

Reading numbers

Activity

Read the numbers

Work to do

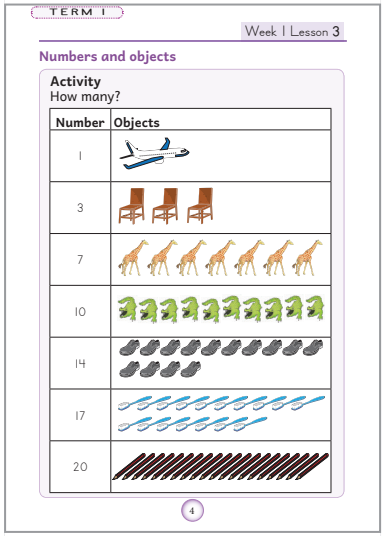
Read the numbers

23 24 27 33 15 38 41 44

34 19 21 47 50 39 25 36

3

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,


TERM 1
Week 1 Lesson 3
Numbers and objects
Activity
How many?
Number | Objects
1
3
7
10
14
17
20
4

Introduction

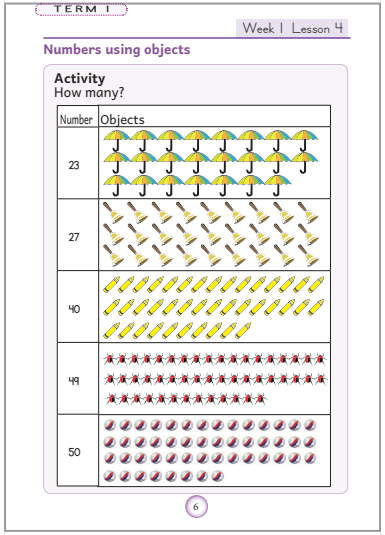
Learners to answer questions on representation of numbers using objects. For example, how many gates, how many doors and/or windows are found at home, how many cups and plates?

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 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 4
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


TERM 1
Week 1 Lesson 4
Numbers using objects
Activity
How many?
Number | Objects
23
27
40
49
50
6

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 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 6
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.

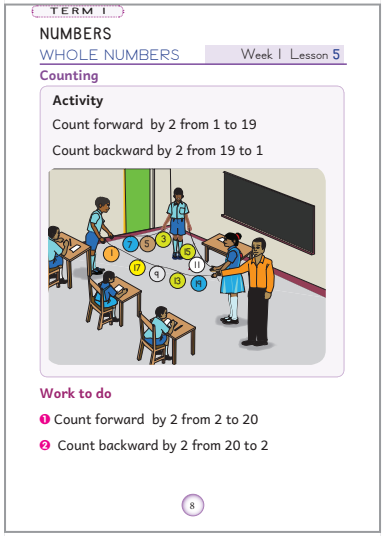
WHOLE NUMBERS

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 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.


TERM 1
NUMBERS
WHOLE NUMBERS Week 1 Lesson 5
Counting
Activity
Count forward by 2 from 1 to 19
Count backward by 2 from 19 to 1
Work to do
1 Count forward by 2 from 2 to 20
2 Count backward by 2 from 20 to 2
8

Introduction

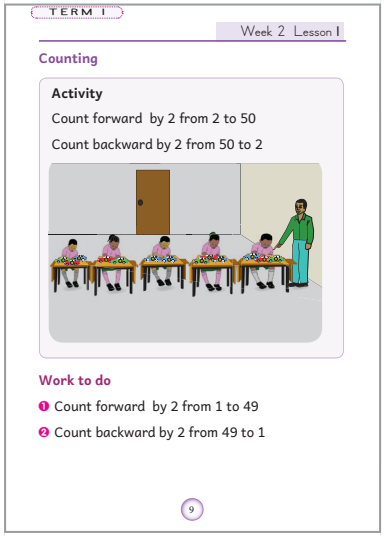
Learners to count in 1's upto10 forward and backward.

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 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 7
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 in 2's 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


TERM 1

Week 2 Lesson 1

Counting

Activity

Count forward by 2 from 2 to 50

Count backward by 2 from 50 to 2

Work to do

1. Count forward by 2 from 1 to 49
2. Count backward by 2 from 49 to 1

9

Introduction

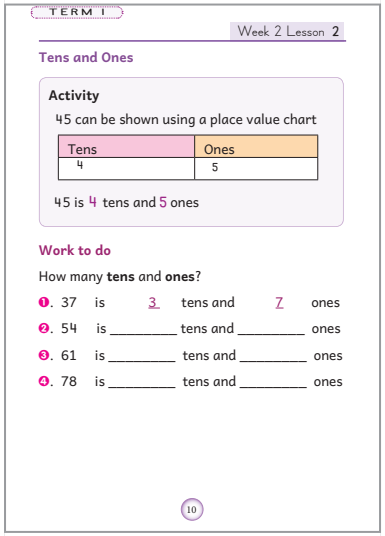
Learners to count in 2's forward and backward up to 20

Development

Teacher Activities	**Demonstrate:** Show learners how to count in 2's up to 50 forward and backward using counters.
Teacher and Learner Activities	**Guide:** Learners in pairs or groups to count 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.

Extended Learning; Learners can be involved in counting 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


TERM 1

Week 2 Lesson 2

Tens and Ones

Activity

45 can be shown using a place value chart

Tens	Ones
4	5

45 is 4 tens and 5 ones

Work to do

How many **tens** and **ones**?

1. 37 is 3 tens and 7 ones
2. 54 is _____ tens and _____ ones
3. 61 is _____ tens and _____ ones
4. 78 is _____ tens and _____ ones

10

Introduction

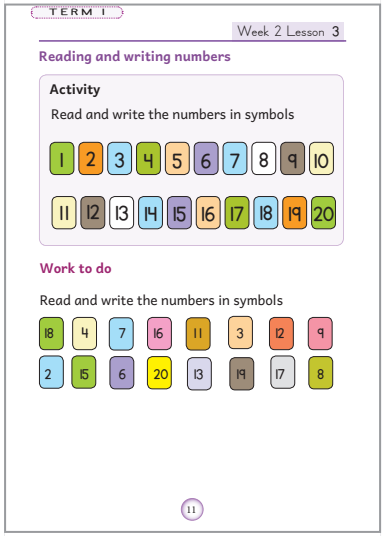
Learners to write numbers in tens and ones.

Development

Teacher Activities	**Demonstrate:** Show learners how to represent 45 on the place value chart.
Teacher and Learner Activities	**Guide:** Learners in 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.

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 and write 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


TERM 1

Week 2 Lesson 3

Reading and writing numbers

Activity

Read and write the numbers in symbols

1 2 3 4 5 6 7 8 9 10

11 12 13 14 15 16 17 18 19 20

Work to do

Read and write the numbers in symbols

18 4 7 16 11 3 12 9

2 15 6 20 13 19 17 8

11

Introduction

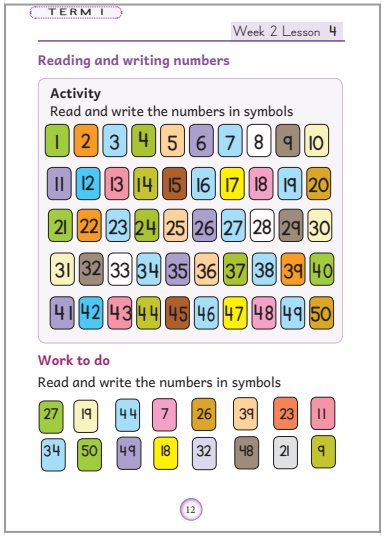
Learners to read and write number symbols up to 10

Development

Teacher Activities	**Demonstrate:** Show learners how to read and write numbers 1 up to 20 using number charts and number cards.
Teacher and Learners Activities	**Guide:** Learners in pairs or groups to read and write 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 and write them on the board.

Extended Learning; Learners to read and write numbers in school and at home such as on calendars, 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 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


TERM 1

Week 2 Lesson 4

Reading and writing numbers

Activity

Read and write the numbers in symbols

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50

Work to do

Read and write the numbers in symbols

27	19	44	7	26	39	23	11
34	50	49	18	32	48	21	9

12

Introduction

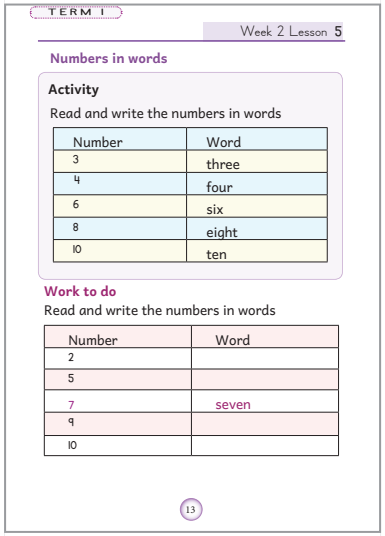
Learners to read and write number symbols 1 to 20

Development

Teacher Activities	**Demonstrate:** Show learners how to read and write numbers 1 up to 50 using number charts and number cards.
Teacher and Learners Activities	**Guide:** Learners in 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


TERM I

Week 2 Lesson 5

Numbers in words

Activity

Read and write the numbers in words

Number	Word
3	three
4	four
6	six
8	eight
10	ten

Work to do

Read and write the numbers in words

Number	Word
2	
5	
7	seven
9	
10	

13

Introduction

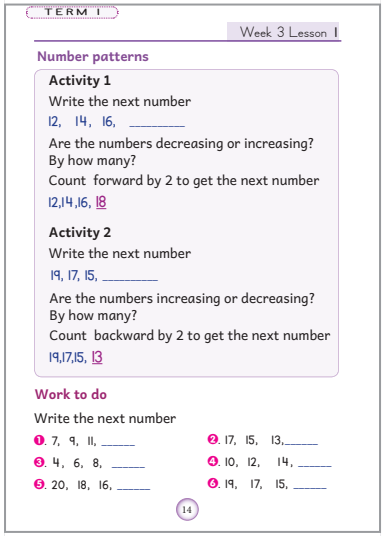
Learners to answer questions on how to write numbers 1 to 10 in words.

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 Learners Activities	**Guide:** Learners in 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 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


TERM 1

Week 3 Lesson 1

Number patterns

Activity 1

Write the next number

12, 14, 16, _____

Are the numbers decreasing or increasing?
By how many?

Count forward by 2 to get the next number

12,14,16, 18

Activity 2

Write the next number

19, 17, 15, _____

Are the numbers increasing or decreasing?
By how many?

Count backward by 2 to get the next number

19,17,15, 13

Work to do

Write the next number

1. 7, 9, 11, _____
2. 17, 15, 13,_____
3. 4, 6, 8, _____
4. 10, 12, 14, _____
5. 20, 18, 16, _____
6. 19, 17, 15, _____

14

Introduction

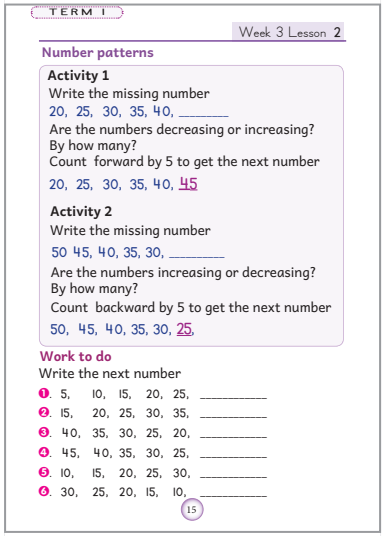
Learners to count in 1's and 2's up to 10 both forward and backward.

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 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.

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,


TERM 1

Week 3 Lesson 2

Number patterns

Activity 1

Write the missing number

20, 25, 30, 35, 40, _____

Are the numbers decreasing or increasing?

By how many?

Count forward by 5 to get the next number

20, 25, 30, 35, 40, 45

Activity 2

Write the missing number

50 45, 40, 35, 30, _____

Are the numbers increasing or decreasing?

By how many?

Count backward by 5 to get the next number

50, 45, 40, 35, 30, 25,

Work to do

Write the next number

1. 5, 10, 15, 20, 25, _____
2. 15, 20, 25, 30, 35, _____
3. 40, 35, 30, 25, 20, _____
4. 45, 40, 35, 30, 25, _____
5. 10, 15, 20, 25, 30, _____
6. 30, 25, 20, 15, 10, _____

15

Introduction

Learners to count 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 Learners Activities	**Guide:** Learners in pairs or groups to work out missing numbers in patterns up to 50.
Learner Activities	Learners to do activities in pupil's book page 15
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.

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

FRACTIONS

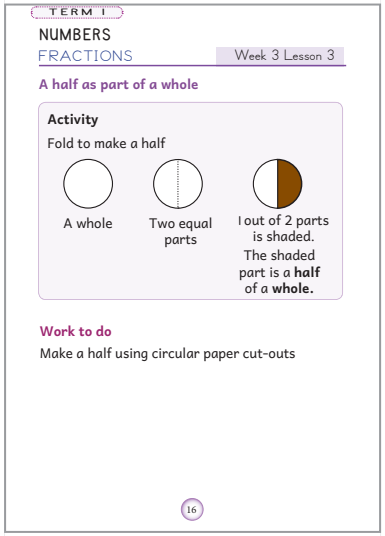
Background Information

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 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 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


TERM 1
NUMBERS
FRACTIONS Week 3 Lesson 3
A half as part of a whole
Activity
Fold to make a half
A whole
Two equal parts
1 out of 2 parts is shaded. The shaded part is a half of a whole.
Work to do
Make a half using circular paper cut-outs
16

Introduction

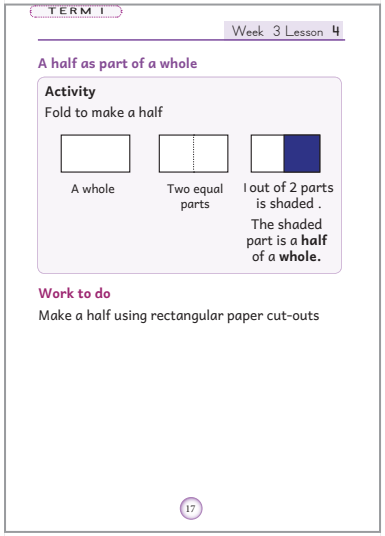
Learners to answer questions on how they share items in school, at home and in the community.

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 Learners Activities	**Guide:** Learners in 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


TERM 1

Week 3 Lesson 4

A half as part of a whole

Activity

Fold to make a half

A whole

Two equal parts

1 out of 2 parts is shaded .

The shaded part is a **half** of a **whole.**

Work to do

Make a half using rectangular paper cut-outs

17

Introduction

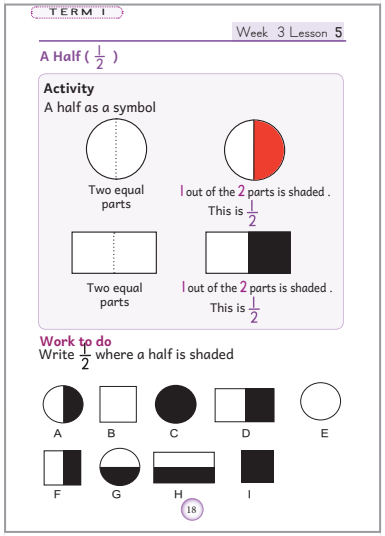
Learners to answer questions on how they share items in school, at home and in the community.

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 Learners Activities	**Guide:** Learners in 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:** paper cut-outs, felt pens, manila paper


TERM 1

Week 3 Lesson 5

A Half ($\frac{1}{2}$)

Activity

A half as a symbol

Two equal parts

1 out of the 2 parts is shaded . This is $\frac{1}{2}$

Two equal parts

1 out of the 2 parts is shaded . This is $\frac{1}{2}$

Work to do

Write $\frac{1}{2}$ where a half is shaded

A B C D E

F G H I

18

Introduction

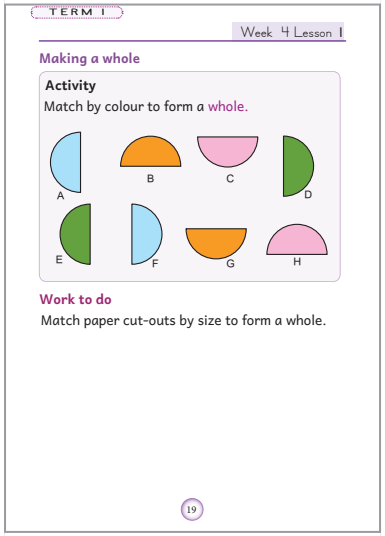
Learners answer questions on a half as part of a whole.

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 Learners Activities	**Guide:** Learners in 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


TERM 1
Week 4 Lesson 1
Making a whole
Activity
Match by colour to form a whole.
A B C D
E F G H
Work to do
Match paper cut-outs by size to form a whole.
19

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 Learners Activities	**Guide:** Learners in 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.

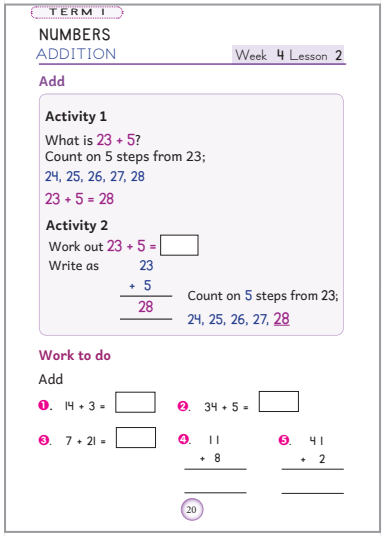
ADDITION

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 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 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


TERM 1
NUMBERS
ADDITION
Week 4 Lesson 2
Add
Activity 1
What is 23 + 5?
Count on 5 steps from 23;
24, 25, 26, 27, 28
23 + 5 = 28
Activity 2
Work out 23 + 5 = ☐
Write as 23 + 5 = 28
Count on 5 steps from 23;
24, 25, 26, 27, 28
Work to do
Add
1. 14 + 3 = ☐
2. 34 + 5 = ☐
3. 7 + 21 = ☐
4. 11 + 8 = ☐
5. 41 + 2 = ☐
20

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
Learner and **Teacher's activities**	**Write :** 32 + 4 = ☐ **Guide:** Learners in 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

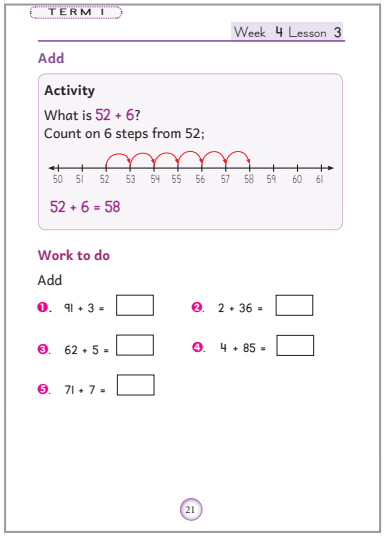
Introduction

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
Learner and Teacher's activities	**Write:** 73+ 4 = **Guide:** Learners in 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..


TERM 1

Week 4 Lesson 3

Add

Activity

What is 52 + 6?

Count on 6 steps from 52;

50 51 52 53 54 55 56 57 58 59 60 61

52 + 6 = 58

Work to do

Add

1. 91 + 3 = ☐
2. 2 + 36 = ☐
3. 62 + 5 = ☐
4. 4 + 85 = ☐
5. 71 + 7 = ☐

21

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

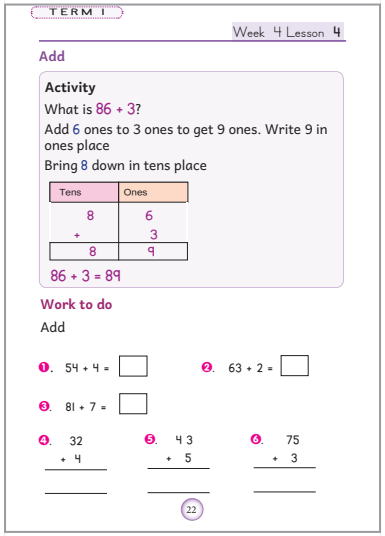
Introduction

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
Learner and Teacher's activities	**Write:** 64+ 5 = ☐ **Guide:** Learners in 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.


TERM 1

Week 4 Lesson 4

Add

Activity

What is 86 + 3?

Add 6 ones to 3 ones to get 9 ones. Write 9 in ones place

Bring 8 down in tens place

Tens	Ones
8	6
+	3
8	9

86 + 3 = 89

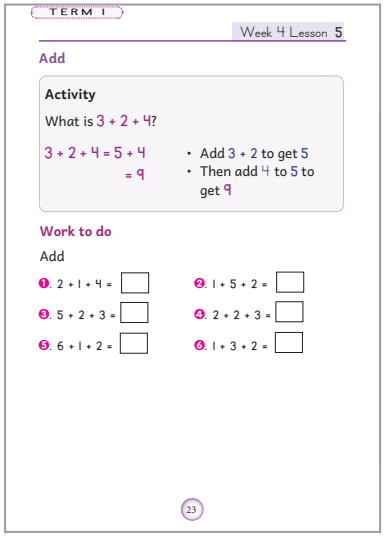
Work to do

Add

1. 54 + 4 = ☐
2. 63 + 2 = ☐
3. 81 + 7 = ☐
4. 32 + 4 = ☐
5. 43 + 5 = ☐
6. 75 + 3 = ☐

22

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


TERM 1

Week 4 Lesson 5

Add

Activity

What is 3 + 2 + 4?

3 + 2 + 4 = 5 + 4
= 9

- Add 3 + 2 to get 5
- Then add 4 to 5 to get 9

Work to do

Add

1. 2 + 1 + 4 =
2. 1 + 5 + 2 =
3. 5 + 2 + 3 =
4. 2 + 2 + 3 =
5. 6 + 1 + 2 =
6. 1 + 3 + 2 =

23

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.
Learner and Teacher's activities	**Write:** 5 + 1 + 3 = ☐ **Guide:** Learners in 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

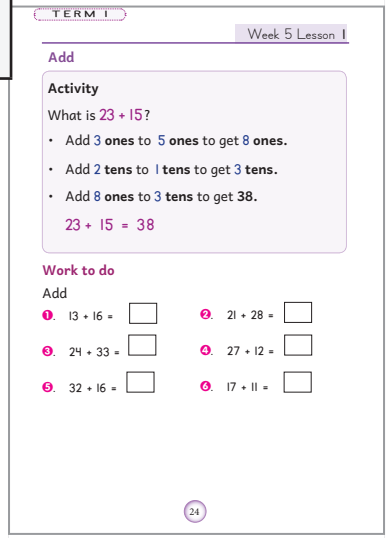
Introduction

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's activities	**Write:** 32 + 14 = ☐ **Guide:** Learners in pairs or groups to add 32 + 14
Learner Activities	Learners to do activities in pupil's book page 24
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.


TERM 1

Week 5 Lesson 1

Add

Activity

What is 23 + 15?

- Add 3 ones to 5 ones to get 8 ones.
- Add 2 tens to 1 tens to get 3 tens.
- Add 8 ones to 3 tens to get 38.

23 + 15 = 38

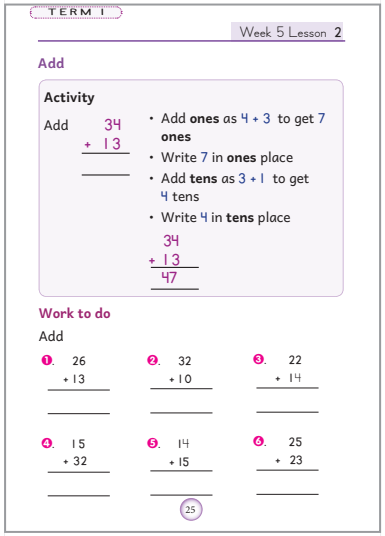
Work to do

Add

1. 13 + 16 = ☐
2. 21 + 28 = ☐
3. 24 + 33 = ☐
4. 27 + 12 = ☐
5. 32 + 16 = ☐
6. 17 + 11 = ☐

24

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


TERM 1

Week 5 Lesson 2

Add

Activity

Add 34 + 13

- Add **ones** as 4 + 3 to get 7 **ones**
- Write 7 in **ones** place
- Add **tens** as 3 + 1 to get 4 tens
- Write 4 in **tens** place

34
+ 13
47

Work to do

Add

1. 26 + 13
2. 32 + 10
3. 22 + 14
4. 15 + 32
5. 14 + 15
6. 25 + 23

25

Introduction

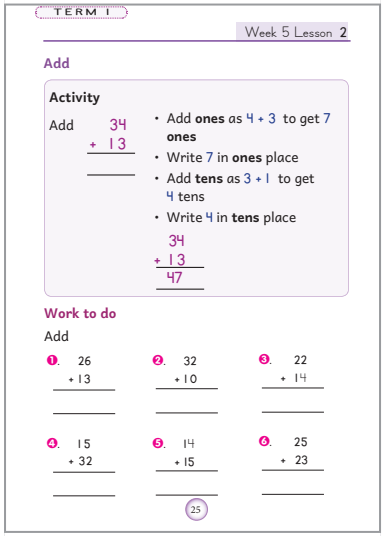
Learners to add a 2-digit number to a 1-digit number up to a sum of 50

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

Learner and Teacher's activities	**Write:** 22 + 11 = ☐ **Guide:** Learners in 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.


TERM 1

Week 5 Lesson 2

Add

Activity

Add 34 + 13

- Add **ones** as 4 + 3 to get 7 **ones**
- Write 7 in **ones** place
- Add **tens** as 3 + 1 to get 4 tens
- Write 4 in **tens** place

34 + 13 = 47

Work to do

Add

1. 26 + 13
2. 32 + 10
3. 22 + 14
4. 15 + 32
5. 14 + 15
6. 25 + 23

25

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

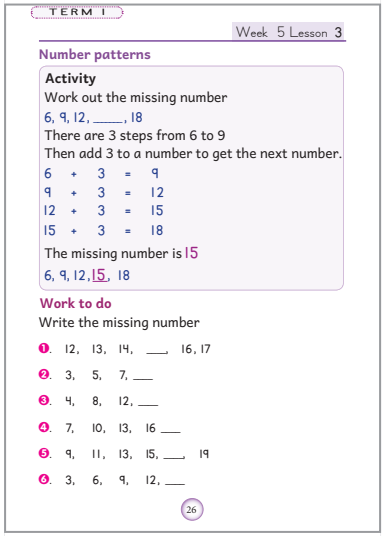
Introduction

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
Learner and Teacher's activities	**Write:** The pattern 11, 13, 15, ___, ___ **Guide:** Learners in 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.



TERM 1

Week 5 Lesson 3

Number patterns

Activity

Work out the missing number

6, 9, 12, ____, 18

There are 3 steps from 6 to 9

Then add 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

6, 9, 12, 15, 18

Work to do

Write the missing number

1. 12, 13, 14, ___, 16, 17
2. 3, 5, 7, ___
3. 4, 8, 12, ___
4. 7, 10, 13, 16 ___
5. 9, 11, 13, 15, ___, 19
6. 3, 6, 9, 12, ___

26

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 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 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

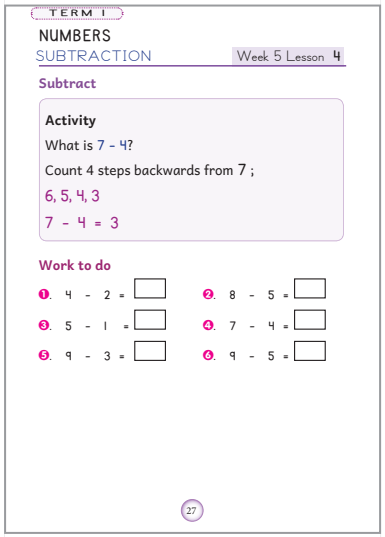
Introduction

Learners to count 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**
Learner and Teacher's activities	**Write:** 8 - 2 = ☐ **Guide:** Learners in 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.


TERM 1

NUMBERS

SUBTRACTION Week 5 Lesson 4

Subtract

Activity

What is 7 – 4?

Count 4 steps backwards from 7 ;

6, 5, 4, 3

7 – 4 = 3

Work to do

1. 4 - 2 = ☐
2. 8 - 5 = ☐
3. 5 - 1 = ☐
4. 7 - 4 = ☐
5. 9 - 3 = ☐
6. 9 - 5 = ☐

27

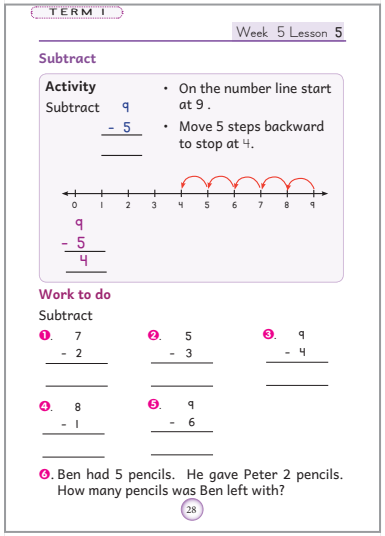
STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to subtract 2-single digit numbers vertically.
SUB -STRAND SUBTRACTION	**Key Inquiry Question:** How do you subtract single digit numbers? **Suggested Learning Resources:** counters, number line

Introduction

Learners to count 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


TERM 1

Week 5 Lesson 5

Subtract

Activity

Subtract 9 - 5 = ___

- On the number line start at 9 .
- Move 5 steps backward to stop at 4.

0 1 2 3 4 5 6 7 8 9

9 - 5 = 4

Work to do

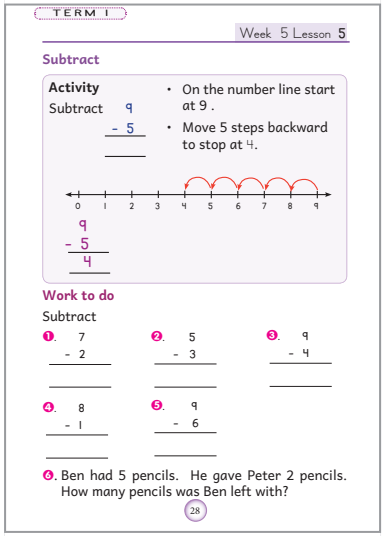
Subtract

1. 7 - 2 = ___
2. 5 - 3 = ___
3. 9 - 4 = ___
4. 8 - 1 = ___
5. 9 - 6 = ___
6. Ben had 5 pencils. He gave Peter 2 pencils. How many pencils was Ben left with?

28

Learner and Teacher's activities	**Write :** 6 - 4 _____ **Guide:** Learners in 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.



TERM 1

Week 5 Lesson 5

Subtract

Activity

Subtract 9

- 5

- On the number line start at 9 .
- Move 5 steps backward to stop at 4.

9
- 5
4

Work to do

Subtract

1. 7 - 2 = _____
2. 5 - 3 = _____
3. 9 - 4 = _____
4. 8 - 1 = _____
5. 9 - 6 = _____
6. Ben had 5 pencils. He gave Peter 2 pencils. How many pencils was Ben left with?

28

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

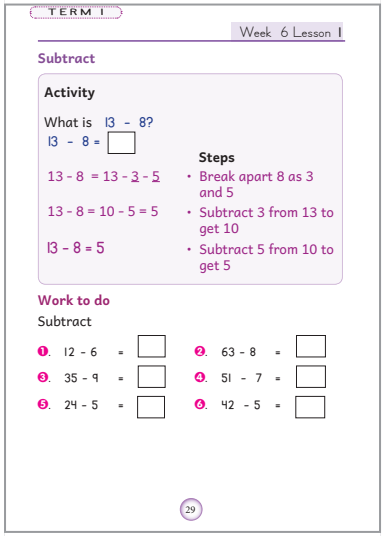
Introduction

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 get 5 13 – 8 = 13 – 3 – 5 then 10 – 5 = 5 Therefore 13 - 8 = **5**
Learner and Teacher's activities	**Write**: 82 - 7 = ☐ **Guide:** Learners in 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.



TERM 1

Week 6 Lesson 1

Subtract

Activity

What is 13 - 8?

13 - 8 = ☐

Steps

13 - 8 = 13 - 3 - 5
- Break apart 8 as 3 and 5

13 - 8 = 10 - 5 = 5
- Subtract 3 from 13 to get 10

13 - 8 = 5
- Subtract 5 from 10 to get 5

Work to do

Subtract

1. 12 - 6 = ☐
2. 63 - 8 = ☐
3. 35 - 9 = ☐
4. 51 - 7 = ☐
5. 24 - 5 = ☐
6. 42 - 5 = ☐

29

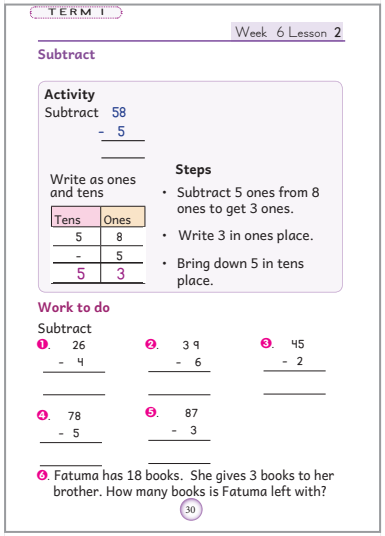
STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to subtract a 1-digit number from a 2-digit number without regrouping vertically
SUB -STRAND SUBTRACTION	**Key Inquiry Question:** How do you subtract a 1-digit number from a 2-digit number? **Suggested Learning Resources:** 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



TERM 1

Week 6 Lesson 2

Subtract

Activity

Subtract 58 − 5

Write as ones and tens

Tens	Ones
5	8
−	5
5	3

Steps

- Subtract 5 ones from 8 ones to get 3 ones.
- Write 3 in ones place.
- Bring down 5 in tens place.

Work to do

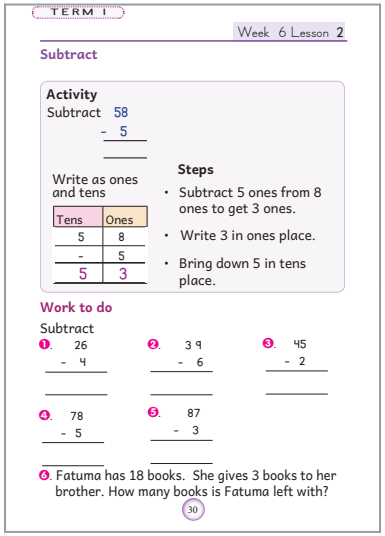
Subtract

1. 26 − 4
2. 39 − 6
3. 45 − 2
4. 78 − 5
5. 87 − 3
6. Fatuma has 18 books. She gives 3 books to her brother. How many books is Fatuma left with?

30

Learner and Teacher's activities	**Write**: 66 - 3 _____ _____ **Guide:** Learners in 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.



TERM 1

Week 6 Lesson 2

Subtract

Activity

Subtract 58
- 5

Write as ones and tens

Tens	Ones
5	8
-	5
5	3

Steps

- Subtract 5 ones from 8 ones to get 3 ones.
- Write 3 in ones place.
- Bring down 5 in tens place.

Work to do

Subtract

1. 26 - 4
2. 39 - 6
3. 45 - 2
4. 78 - 5
5. 87 - 3
6. Fatuma has 18 books. She gives 3 books to her brother. How many books is Fatuma left with?

30

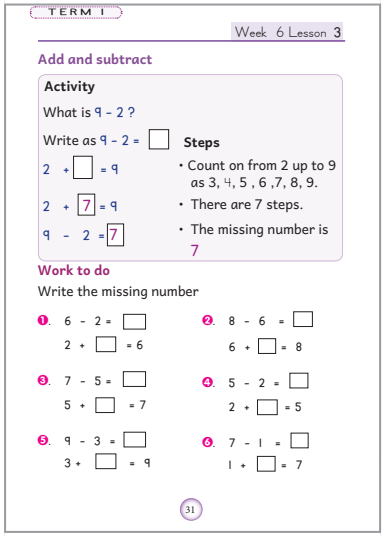
STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to subtract 2-single digit numbers using the relationship between addition and subtraction.
SUB -STRAND SUBTRACTION	**Key Inquiry Question:** How do you work out subtraction using the relationship between addition and subtraction? **Suggested Learning Resources:** counters

Introduction
Learners to add and subtract single digit numbers.

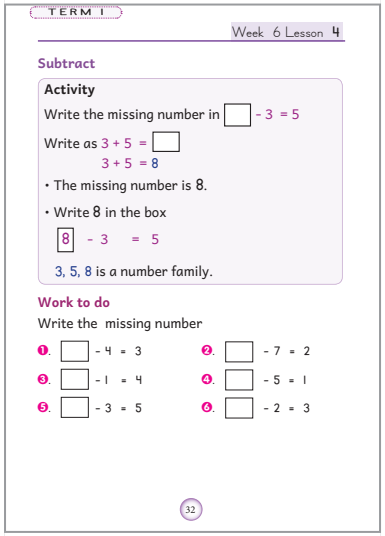
Development

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
Learner and Teacher's activities	**Write:** 4 - 1 = ☐ **Guide:** Learners in 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.


TERM 1
Week 6 Lesson 3
Add and subtract
Activity
What is 9 - 2 ?
Write as 9 - 2 = ☐
2 + ☐ = 9
2 + 7 = 9
9 - 2 = 7
Steps
• Count on from 2 up to 9 as 3, 4, 5 , 6 ,7, 8, 9.
• There are 7 steps.
• The missing number is 7
Work to do
Write the missing number
1. 6 - 2 = ☐ ; 2 + ☐ = 6
2. 8 - 6 = ☐ ; 6 + ☐ = 8
3. 7 - 5 = ☐ ; 5 + ☐ = 7
4. 5 - 2 = ☐ ; 2 + ☐ = 5
5. 9 - 3 = ☐ ; 3 + ☐ = 9
6. 7 - 1 = ☐ ; 1 + ☐ = 7
31

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


TERM 1

Week 6 Lesson 4

Subtract

Activity

Write the missing number in ☐ - 3 = 5

Write as 3 + 5 = ☐

3 + 5 = 8

• The missing number is 8.

• Write 8 in the box

8 - 3 = 5

3, 5, 8 is a number family.

Work to do

Write the missing number

1. ☐ - 4 = 3
2. ☐ - 7 = 2
3. ☐ - 1 = 4
4. ☐ - 5 = 1
5. ☐ - 3 = 5
6. ☐ - 2 = 3

32

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
Learner and Teacher's activities	**Write:** ☐ - 6 = 1 **Guide:** Learners in 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

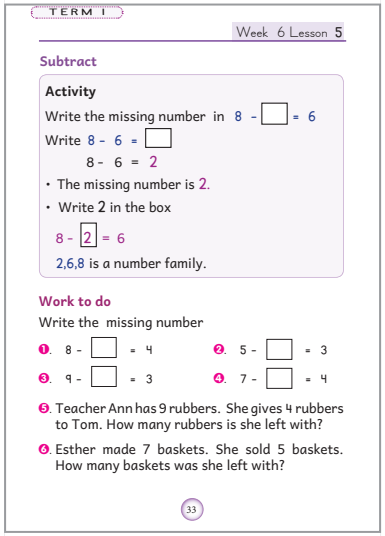
Introduction

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
Learner and Teacher's activities	**Write:** 5 - ☐ = 1 **Guide:** Learners in 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


TERM 1

Week 6 Lesson 5

Subtract

Activity

Write the missing number in 8 - ☐ = 6

Write 8 - 6 = ☐

8 - 6 = 2

- The missing number is 2.
- Write 2 in the box

8 - 2 = 6

2,6,8 is a number family.

Work to do

Write the missing number

1. 8 - ☐ = 4
2. 5 - ☐ = 3
3. 9 - ☐ = 3
4. 7 - ☐ = 4
5. Teacher Ann has 9 rubbers. She gives 4 rubbers to Tom. How many rubbers is she left with?
6. Esther made 7 baskets. She sold 5 baskets. How many baskets was she left with?

33

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

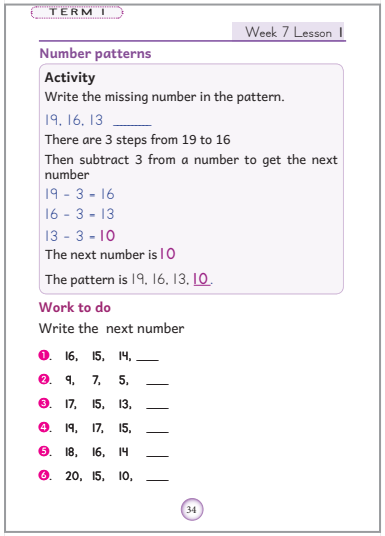
Introduction

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
Learner and Teacher's activities	**Write:** The pattern 13, 11, 9, ___ **Guide:** Learners in 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.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Week 7 Lesson 1

Number patterns

Activity

Write the missing number in the pattern.

19, 16, 13 _____

There are 3 steps from 19 to 16

Then subtract 3 from a number to get the next number

19 - 3 = 16

16 - 3 = 13

13 - 3 = 10

The next number is 10

The pattern is 19, 16, 13, 10.

Work to do

Write the next number

1. 16, 15, 14, ___
2. 9, 7, 5, ___
3. 17, 15, 13, ___
4. 19, 17, 15, ___
5. 18, 16, 14 ___
6. 20, 15, 10, ___

34

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 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 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

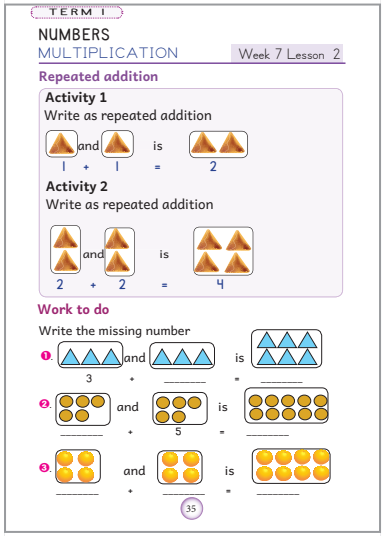
Introduction

Learners to add single digit numbers.

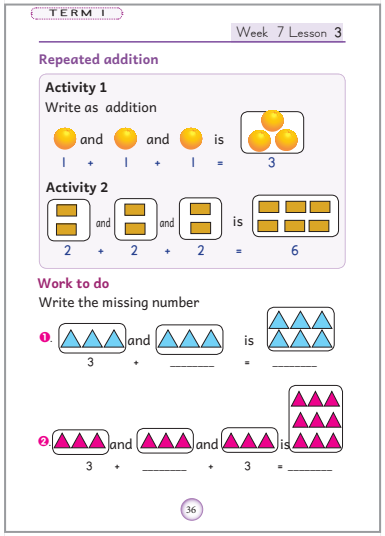
Development

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
Learner and Teacher's activities	**Draw:** ΔΔ and ΔΔ is ΔΔΔΔ **Guide:** Learners in 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



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
Learner and Teacher's activities	**Draw:** ΔΔ and ΔΔ and ΔΔ is ΔΔΔΔΔΔ **Guide:** Learners in 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

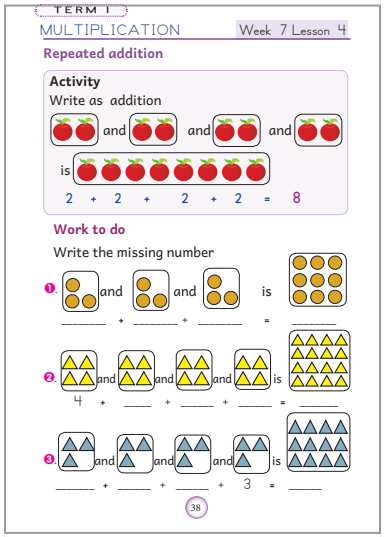
Introduction

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
Learner and Teacher's activities	**Draw:** Δ Δ and Δ Δ and Δ Δ and Δ Δ is Δ Δ ΔΔ ΔΔ Δ Δ **Guide:** Learners in 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.
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.



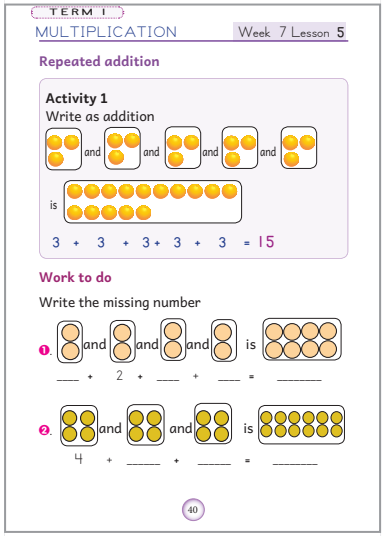
STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to model multiplication as repeated addition up to 5 times.
SUB -STRAND MULTIPLICATION	**Key Inquiry Question:** How do you get the total number of objects in five groups? **Suggested Learning Resources:** counters

Introduction

Learners to add single digit numbers

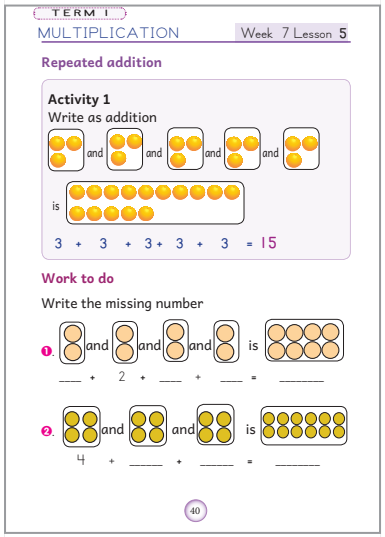
Development

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

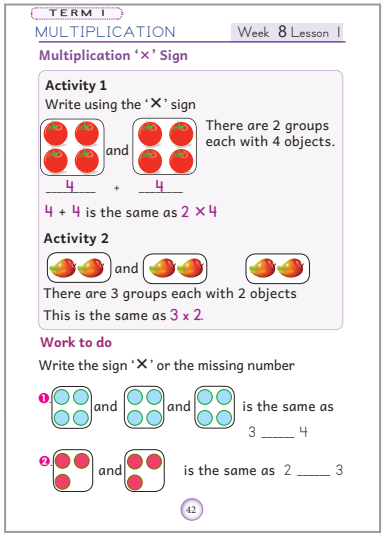

TERM 1
MULTIPLICATION Week 7 Lesson 5
Repeated addition
Activity 1
Write as addition
and and and and
is
3 + 3 + 3 + 3 + 3 = 15
Work to do
Write the missing number
1. and and and is
___ + 2 + ___ + ___ = _____
2. and and and is
4 + _____ + _____ = _____
40

Learner and **Teacher's activities**	**Draw:** ΔΔΔΔΔ and ΔΔΔΔΔ and ΔΔΔΔΔ and ΔΔΔΔΔ and ΔΔΔΔΔ is ΔΔΔΔΔΔΔΔΔΔΔΔΔ ΔΔΔΔΔΔΔ ΔΔΔΔΔ **Guide:** Learners in 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
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.


TERM 1
MULTIPLICATION Week 7 Lesson 5
Repeated addition
Activity 1
Write as addition
and and and and
is
3 + 3 + 3 + 3 + 3 = 15
Work to do
Write the missing number
1. and and and is
___ + 2 + ___ + ___ = _____
2. and and and is
4 + _____ + _____ = _____
40

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


TERM 1
MULTIPLICATION Week 8 Lesson 1
Multiplication '×' Sign
Activity 1
Write using the '×' sign
and
There are 2 groups each with 4 objects.
4 + 4
4 + 4 is the same as 2 × 4
Activity 2
and
There are 3 groups each with 2 objects
This is the same as 3 x 2.
Work to do
Write the sign '×' or the missing number
1 and and and is the same as 3 ____ 4
2 and is the same as 2 ____ 3
42

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.
Learner and Teacher's activities	**Draw:** Δ Δ and Δ Δ and Δ Δ and is ΔΔΔΔΔΔ **Guide:** Learners in 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 41
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.

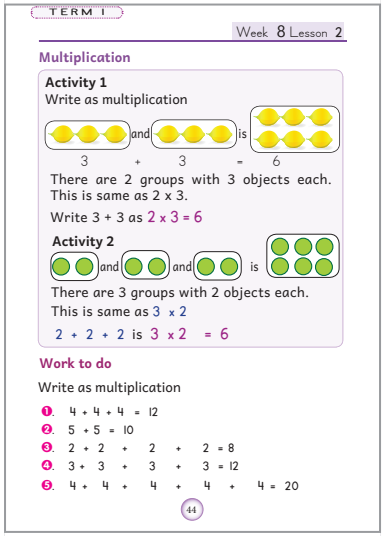
STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to write multiplication sentences from repeated addition
SUB-STRAND MULTIPLICATION	**Key Inquiry Question:** How do you write multiplication sentence from repeated addition? **Suggested LearningResources:** counters

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
Learner and Teacher's activities	**Draw:** Δ Δ and Δ Δ and Δ Δ is ΔΔΔΔΔΔ 2 + 2 + 2 = 6 **Guide:** Learners in pairs or groups to write multiplication sentences from repeated addition.


TERM 1

Week 8 Lesson 2

Multiplication

Activity 1

Write as multiplication

and is

3 + 3 = 6

There are 2 groups with 3 objects each.
This is same as 2 x 3.

Write 3 + 3 as 2 x 3 = 6

Activity 2

and and is

There are 3 groups with 2 objects each.
This is same as 3 x 2

2 + 2 + 2 is 3 x 2 = 6

Work to do

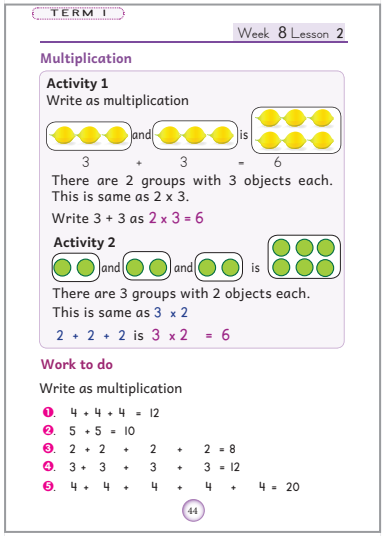
Write as multiplication

1. 4 + 4 + 4 = 12
2. 5 + 5 = 10
3. 2 + 2 + 2 + 2 = 8
4. 3 + 3 + 3 + 3 = 12
5. 4 + 4 + 4 + 4 + 4 = 20

44

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.



TERM 1

Week 8 Lesson 2

Multiplication

Activity 1

Write as multiplication

3 + 3 = 6

There are 2 groups with 3 objects each.
This is same as 2 x 3.

Write 3 + 3 as 2 x 3 = 6

Activity 2

There are 3 groups with 2 objects each.
This is same as 3 x 2

2 + 2 + 2 is 3 x 2 = 6

Work to do

Write as multiplication

1. 4 + 4 + 4 = 12
2. 5 + 5 = 10
3. 2 + 2 + 2 + 2 = 8
4. 3 + 3 + 3 + 3 = 12
5. 4 + 4 + 4 + 4 + 4 = 20

44

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

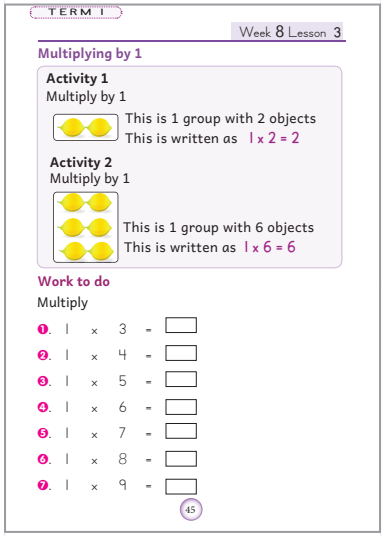
Introduction

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
Learner and Teacher's activities	**Draw:** ΔΔΔΔΔΔ 1 group of 6 objects **Guide:** Learners in 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.


TERM 1

Week 8 Lesson 3

Multiplying by 1

Activity 1

Multiply by 1

This is 1 group with 2 objects

This is written as 1 x 2 = 2

Activity 2

Multiply by 1

This is 1 group with 6 objects

This is written as 1 x 6 = 6

Work to do

Multiply

1. 1 × 3 = ☐
2. 1 × 4 = ☐
3. 1 × 5 = ☐
4. 1 × 6 = ☐
5. 1 × 7 = ☐
6. 1 × 8 = ☐
7. 1 × 9 = ☐

45

MEASUREMENT

General Learning Outcome :

By the end of this strand, the learner should be able to apply measurement skills to find 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 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 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

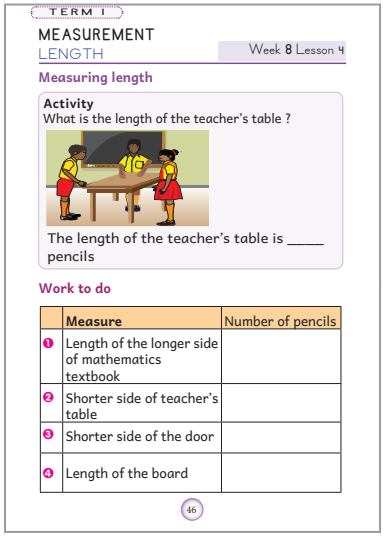
Introduction

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 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
Conclusion	Learners to measure other lengths using pencils in the classroom.

Extended Learning: Learners to measure length of objects using fixed units at home.



TERM 1

MEASUREMENT

LENGTH

Week 8 Lesson 4

Measuring length

Activity

What is the length of the teacher's table ?

The length of the teacher's table is _____ pencils

Work to do

	Measure	Number of pencils
1	Length of the longer side of mathematics textbook	
2	Shorter side of teacher's table	
3	Shorter side of the door	
4	Length of the board	

46

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

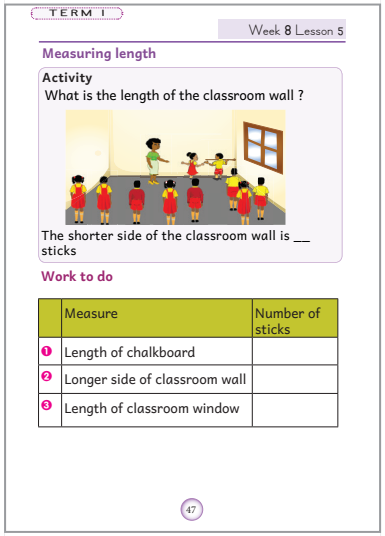
Introduction

Learners to name 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 pairs or groups to measure other lengths using sticks of equal length. Learners to share their findings.
Learners 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.



TERM 1

Week 8 Lesson 5

Measuring length

Activity

What is the length of the classroom wall ?

The shorter side of the classroom wall is __ sticks

Work to do

	Measure	Number of sticks
1	Length of chalkboard	
2	Longer side of classroom wall	
3	Length of classroom window	

47

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 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 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

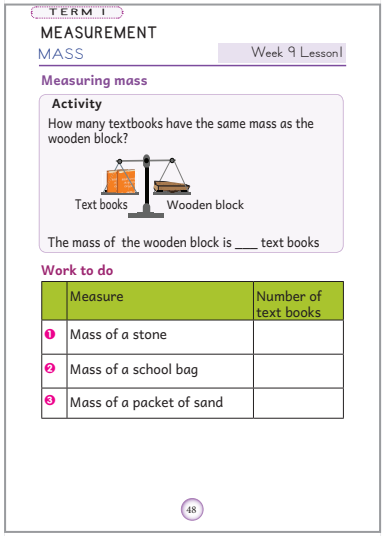
Introduction

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 pairs or groups to measure the mass of different objects in the classroom using mathematics textbooks. Learners to share their findings with other groups.
Learners 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.

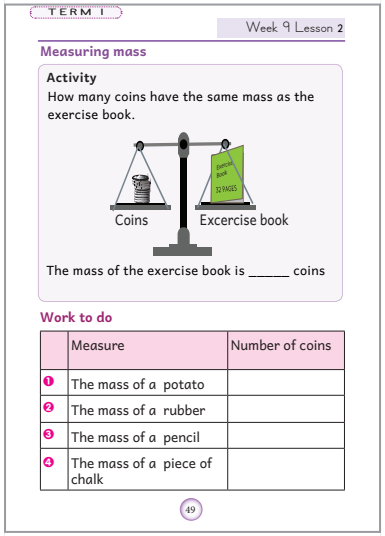
Extended Learning: Learners to measure the mass of objects in the environment using fixed units


TERM 1
MEASUREMENT
MASS
Week 9 Lesson1
Measuring mass
Activity
How many textbooks have the same mass as the wooden block?
Text books
Wooden block
The mass of the wooden block is ___ text books
Work to do

	Measure	Number of text books
1	Mass of a stone	
2	Mass of a school bag	
3	Mass of a packet of sand	

48

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.


TERM 1

Week 9 Lesson 2

Measuring mass

Activity

How many coins have the same mass as the exercise book.

Coins

Excercise book

The mass of the exercise book is _____ coins

Work to do

	Measure	Number of coins
1	The mass of a potato	
2	The mass of a rubber	
3	The mass of a pencil	
4	The mass of a piece of chalk	

49

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 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

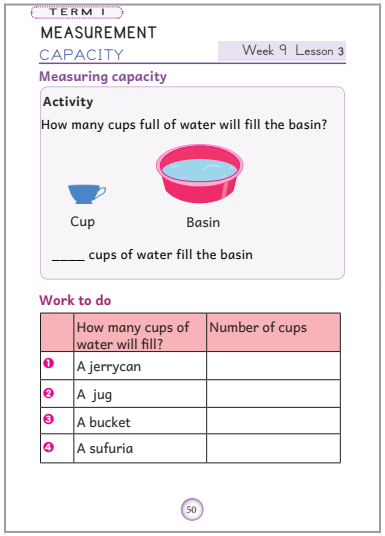
Background Information

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 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 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


TERM 1
MEASUREMENT
CAPACITY
Week 9 Lesson 3
Measuring capacity
Activity
How many cups full of water will fill the basin?
Cup
Basin
____ cups of water fill the basin
Work to do

	How many cups of water will fill?	Number of cups
1	A jerrycan	
2	A jug	
3	A bucket	
4	A sufuria	

50

Introduction

Learners to share 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 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

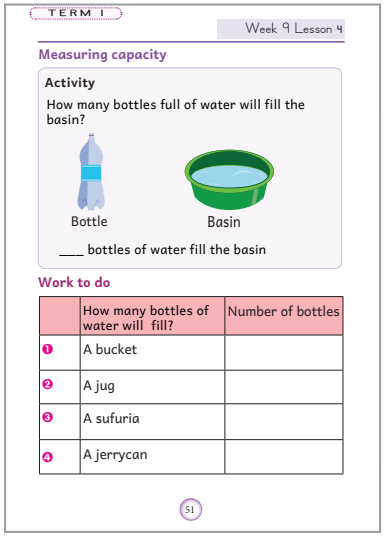
Introduction

Learners to share 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 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.

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



TERM 1

Week 9 Lesson 4

Measuring capacity

Activity

How many bottles full of water will fill the basin?

Bottle Basin

___ bottles of water fill the basin

Work to do

	How many bottles of water will fill?	Number of bottles
1	A bucket	
2	A jug	
3	A sufuria	
4	A jerrycan	

51

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

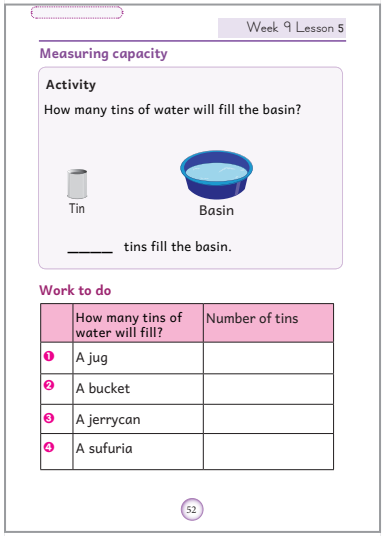
Introduction

Learners to share 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 pairs or groups to find the number of tins of water that fill given containers. Learners to share their findings with the other groups.
Learners 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.



Week 9 Lesson 5

Measuring capacity

Activity

How many tins of water will fill the basin?

Tin

Basin

_____ tins fill the basin.

Work to do

	How many tins of water will fill?	Number of tins
1	A jug	
2	A bucket	
3	A jerrycan	
4	A sufuria	

52

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 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 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, digital devices

Introduction

Learners to sing 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 Learners Activities	**Guide**: Learners in 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 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.


TERM 1
MEASUREMENT
TIME
Week 10 Lesson 1
Months of the year
Activity
There are 12 months in one year.
These are :

1.	January
2.	February
3.	March
4.	April
5.	May
6.	June
7.	July
8.	August
9.	September
10.	October
11.	November
12.	December

Work to do
Read and write the months of the year in order.
53

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, digital devices

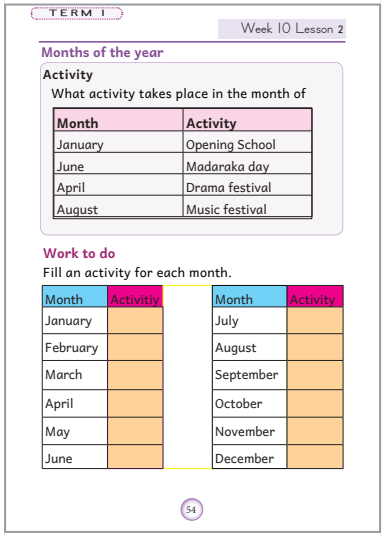
Introduction

Learners to name 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 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.



TERM 1

Week 10 Lesson 2

Months of the year

Activity

What activity takes place in the month of

Month	Activity
January	Opening School
June	Madaraka day
April	Drama festival
August	Music festival

Work to do

Fill an activity for each month.

Month	Activity	Month	Activity
January		July	
February		August	
March		September	
April		October	
May		November	
June		December	

54

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

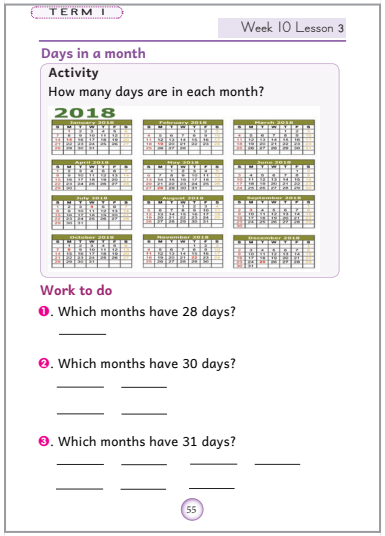
Introduction

Sing 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 Learners Activities	**Guide**: Learners in 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.
Learners 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.


TERM 1

Week 10 Lesson 3

Days in a month

Activity

How many days are in each month?

2018

Work to do

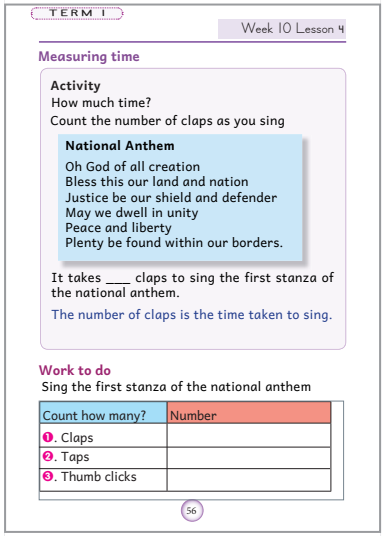
1. Which months have 28 days?

2. Which months have 30 days?

3. Which months have 31 days?

55

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


TERM 1

Week 10 Lesson 4

Measuring time

Activity

How much time?

Count the number of claps as you sing

National Anthem

Oh God of all creation
Bless this our land and nation
Justice be our shield and defender
May we dwell in unity
Peace and liberty
Plenty be found within our borders.

It takes ___ claps to sing the first stanza of the national anthem.

The number of claps is the time taken to sing.

Work to do

Sing the first stanza of the national anthem

Count how many?	Number
❶. Claps	
❷. Taps	
❸. Thumb clicks	

56

Introduction

Learners to sing 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 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 singing 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 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, 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.

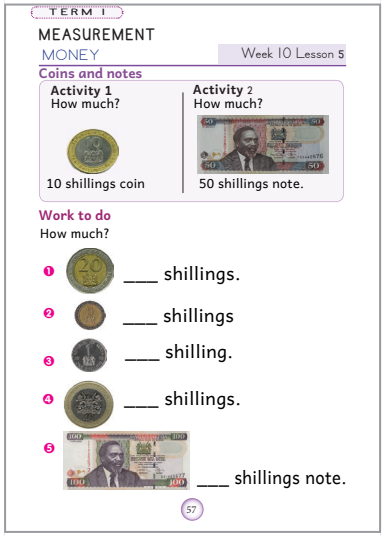
Introduction

Learners to share 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 pairs or groups to identify the features on the coins and notes of Kenyan currency. Learners to share the features identified with other groups.
Learners 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.


TERM 1
MEASUREMENT
MONEY
Week 10 Lesson 5
Coins and notes
Activity 1
How much?
10 shillings coin
Activity 2
How much?
50 shillings note.
Work to do
How much?
1 ___ shillings.
2 ___ shillings
3 ___ shilling.
4 ___ shillings.
5 ___ shillings note.
57

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.

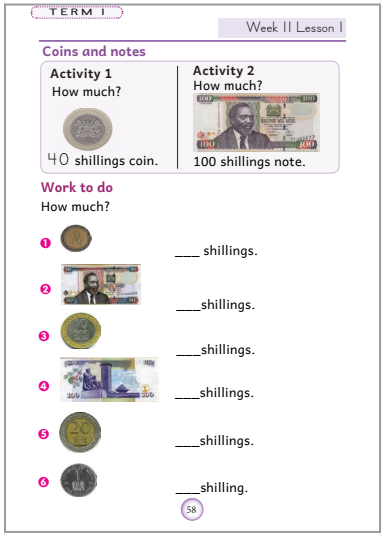
Introduction

Learners to share 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 Learners Activities	**Guide:** Learners in pairs or groups to sort Kenyan currency in notes and coins according to value and features. Learners to share their work with other groups.
Learners 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.


TERM 1

Week 11 Lesson 1

Coins and notes

Activity 1
How much?

40 shillings coin.

Activity 2
How much?

100 shillings note.

Work to do
How much?

1 ___ shillings.

2 ___shillings.

3 ___shillings.

4 ___shillings.

5 ___shillings.

6 ___shilling.

58

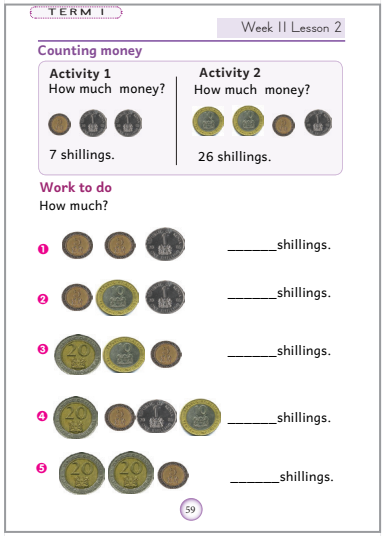
STRAND MEASUREMENT	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to count money in coins in values of; sh.1, sh.5, sh.10, sh.20, sh.40, and sh.50 up to sh.100
SUB-STRAND MONEY	**Key Inquiry Question:** How do you count money?
	Suggested Learning Resources: Kenyan currency in coins up to a hundred.

Introduction
Learners to share their experiences with money.

Development

Teacher Activities	**Demonstrate:** Using coins show learners how to count money.
Teacher and Learners Activities	**Guide:** Learners in 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.


TERM 1
Week 11 Lesson 2
Counting money
Activity 1
How much money?
7 shillings.
Activity 2
How much money?
26 shillings.
Work to do
How much?
1 _____shillings.
2 _____shillings.
3 _____shillings.
4 _____shillings.
5 _____shillings.
59

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.

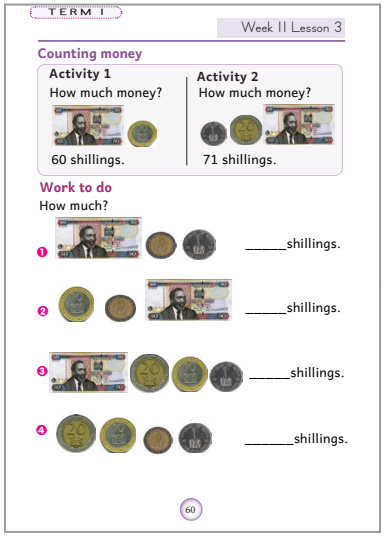
Introduction

Learners to share their money.

Development

Teacher Activities	**Demonstrate:** Using coins and notes, show learners how to count money.
Teacher and Learners Activities	**Guide:** Learners in 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.


TERM 1

Week 11 Lesson 3

Counting money

Activity 1
How much money?

60 shillings.

Activity 2
How much money?

71 shillings.

Work to do
How much?

1 _____shillings.

2 _____shillings.

3 _____shillings.

4 _____shillings.

60

GEOMETRY

General Learning Outcome :

By the end of this strand, the learner should be able to describe properties of geometrical shapes and spatial relationships in real life experiences.

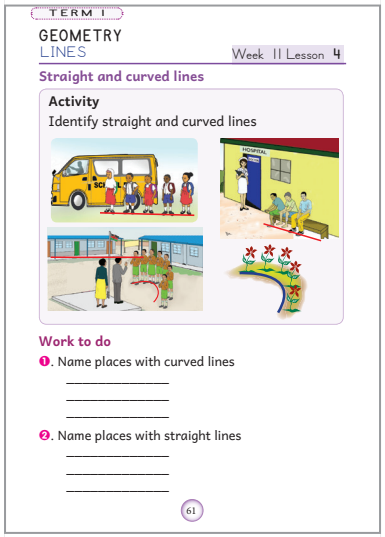
LINES

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 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 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


TERM 1
GEOMETRY
LINES
Week 11 Lesson 4
Straight and curved lines
Activity
Identify straight and curved lines
Work to do
1. Name places with curved lines
2. Name places with straight lines
61

Introduction

Learners to answer questions 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 flag post during assembly and the arrangement of water jerrycans.
Teacher and Learner Activities	**Guide:** Learners in 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

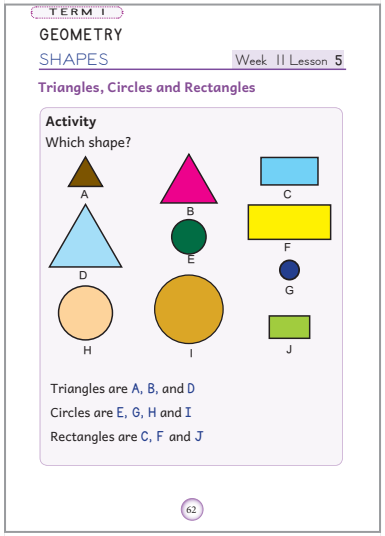
Background Information

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 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 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 a rectangle, a circle and a triangle look like? **Suggested Learning Resources:** paper cut-outs of rectangles , triangles and circle


TERM 1
GEOMETRY
SHAPES
Week 11 Lesson 5
Triangles, Circles and Rectangles
Activity
Which shape?
A
B
C
D
E
F
G
H
I
J
Triangles are A, B, and D
Circles are E, G, H and I
Rectangles are C, F and J
62

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 Learners Activities	**Guide:** Learners in 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 62
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 objects in school and at home.

ANSWERS TO WORK TO DO TERM 1

Week 1 Lesson1

The teacher to listen as learners read the numbers.

Week 1 Lesson2

The teacher to listen as learners read the numbers.

Week 1 Lesson3

b. 9 c. 12 d. 1 e. 20

Week 1 Lesson4

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

Week 1 Lesson 5

1. Teacher to listen as learners count forward by 2 from 2 to 20
2. Teacher to listen as learners count backward by 2 from 20 to 2

Week 2 Lesson1

1. Teacher to listen as learners count forward by 2 from 1 to 49
2. Teacher to listen as learners count backward from 49 to 1

Week 2 Lesson 2

2. **5** Tens **4** Ones

3. **6** Tens **1** Ones

4. **7** Tens **8** Ones

Week 2 Lesson 3

Teacher to listen as learners read and write the numbers in symbols.

Week 2 Lesson 4

Teacher to listen as learners read and write the numbers in symbols

Week 2 Lesson 5

Number	Word
2	Two
5	Five
9	Nine
10	Ten

Week 3 Lesson1

1. 13 2.11 3. 10 4. 16 5. 14 6. 13

Week 3 Lesson 2

1. 30 2. 40 3. 15 4. 20 5. 35 6. 5

Week 3 Lesson 3

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

Week 3 Lesson 4

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

Week 3 Lesson 5

A, D, F, G, H.

Week 4 Lesson 1

Teacher to observe as the learners carry out the activity.

Week 4 Lesson 2

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

Week 4 Lesson 3

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

Week 4 Lesson 4

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

Week 4 Lesson 5

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

Week 5 Lesson 1

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

Week 5 Lesson 2

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

Week 5 Lesson 3

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

Week 5 Lesson 4

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

Week 5 Lesson 5

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

Week 6 Lesson 1

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

Week 6 Lesson 2

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

Week 6 Lesson 3

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

Week6 Lesson4

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

Week 6 Lesson 5

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

Week 7 Lesson 1

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

Week 7 Lesson 2

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

Week 7 Lesson 3

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

Week 7 Lesson 4

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 Lesson 5

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

Week 8 Lesson 1

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

Week 8 Lesson 2

1. 4X3=12 2. 5X2=10 3. 2X4=8 4. 3X4=12 5. 4X5=20

Week 8 Lesson 3

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

Week 8 Lesson 4

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 Lesson 5

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

Week 9 Lesson 1

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 Lesson 2

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 Lesson 3

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

Week 9 Lesson 4

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

Week 9 Lesson 5

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

Week 10 Lesson 1

Teacher to listen as learners read and write the months of the year in order.

Week 10 Lesson 2

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

Week 10 Lesson 3

1. February
2. April, June, September, November.
3. January, March, May, July, August, October, December.

Week 10 Lesson 4

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

Week 10 Lesson 5

1. 20 2. 5 3. 10 4. 40 5. 100

Week 11 Lesson 1

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

Week 11 Lesson 2

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

Week 11 Lesson 3

1. 56 2. 65 3. 81 4. 36

Week 11 Lesson 4

Any correct response.

Week 11 Lesson 5

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

ANSWERS TO I CAN DO 1

1. Teacher to listen as learners read the numbers
2. 36
3. Teacher to listen as learners count forward by 2 from 3 to 47
4. Teacher to listen as learners count backward by 2 from 47 to 3
5. 2 tens 3 ones
6. Learners to draw any 6
   Nine
7. 23
8. 11
9. B
10. 18
11. 89
12. 47
13. 9
14. 14, 17
15. 5
16. 28
17. 65
18. 9
19. 5
20. 8
21. 2 + 2 + 2 = 6
22. 4 + 4 = 8
23. 3 + 3 + 3 = 9
24. 2 + 2 + 2 + 2 = 8
25. 3
26. 8
27. 6
28. 4
29. 3
30. 7
31. 5
32. a) Shorter than
    b) Longer than
    c) Longer than
33. a) Heavier than
    b) Lighter than
    c) Heavier than
    d) Same as
34. Basin
35. Cup
36. Same as
37. 8 O'clock
    5 O'clock
    12 O'clock
38. 6:00
39. Tuesday
    Saturday
    Wednesday
    Thursday
    Tuesday
40. Need
    Need
    Want
    Want
41. 4
    2
42. A
43. B

TERM 2

NUMBERS

General Learning Outcome :

By the end of this strand, the learner should be able to demonstrate mastery of number concepts by working out problems in day to day life

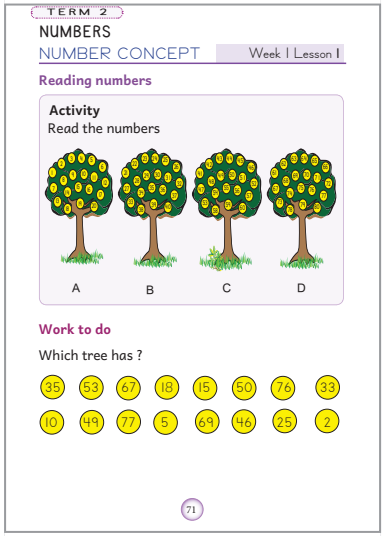
NUMBER CONCEPT

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 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 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 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


TERM 2
NUMBERS
NUMBER CONCEPT Week 1 Lesson 1
Reading numbers
Activity
Read the numbers
A B C D
Work to do
Which tree has ?
35 53 67 18 15 50 76 33
10 49 77 5 69 46 25 2
71

Introduction

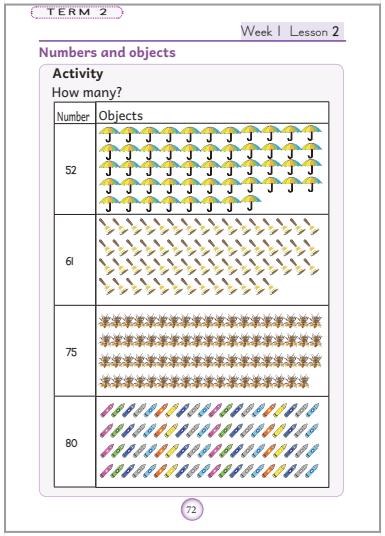
Learners to read number symbols up to 50

Development

Teacher Activities	**Demonstrate:** Show learners how to read number symbols 1 up to 80 on a number chart
Teacher and Learner Activities	**Guide:** Learners in 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.

Extended Learning: Learners to read rental box numbers at the nearest post office.

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 e objects? **Suggested Learning Resources:** books, pencils, bottles, spoons, number cards,


TERM 2
Week 1 Lesson 2
Numbers and objects
Activity
How many?
Number | Objects
52
61
75
80
72

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 Learners Activities	**Guide:** Learners in 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 72
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.

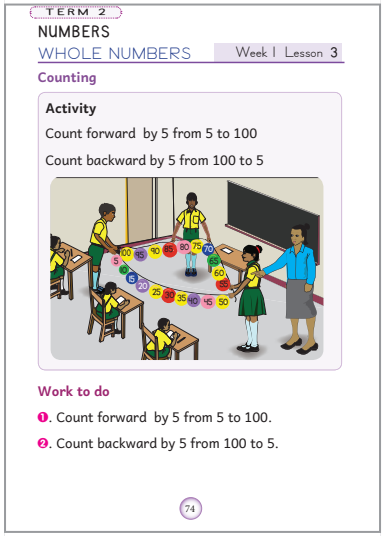
WHOLE NUMBERS

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 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 5's up to 100 forward and backward.
SUB-STRAND WHOLE NUMBERS	**Key Inquiry Question:** How do you count numbers forward and backward? **Suggested Learning Resources:** counters sticks, stones,seeds, grains


TERM 2
NUMBERS
WHOLE NUMBERS Week 1 Lesson 3
Counting
Activity
Count forward by 5 from 5 to 100
Count backward by 5 from 100 to 5
Work to do
1. Count forward by 5 from 5 to 100.
2. Count backward by 5 from 100 to 5.
74

Introduction

Learners to count in 2's up to 50 forward and backward.

Development

Teacher Activities	**Demonstrate:** Show learners how to count in 5's up to 100 forward and backward using counters.
Teacher and Learners Activities	**Guide:** Learners in pairs or groups practice counting 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 in 5's up to 100

Extended Learning: Learners to practise counting 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

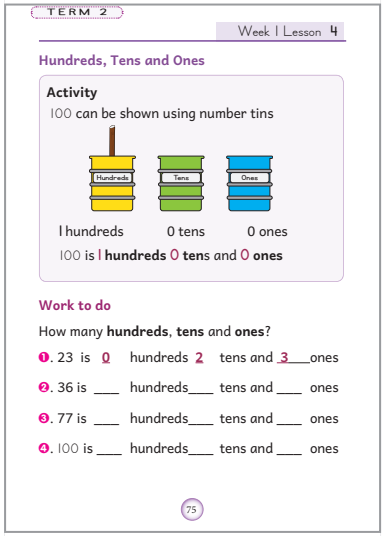
Introduction

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 Learners Activities	**Guide:** Learners in 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.



TERM 2

Week 1 Lesson 4

Hundreds, Tens and Ones

Activity

100 can be shown using number tins

Hundreds Tens Ones

1 hundreds 0 tens 0 ones

100 is 1 **hundreds** 0 **tens** and 0 **ones**

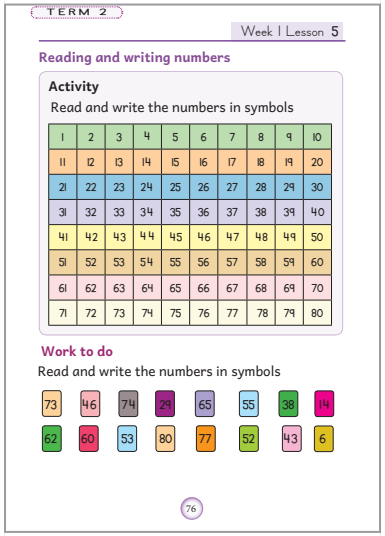
Work to do

How many **hundreds**, **tens** and **ones**?

1. 23 is 0 hundreds 2 tens and 3 ones
2. 36 is ___ hundreds___ tens and ___ ones
3. 77 is ___ hundreds___ tens and ___ ones
4. 100 is ___ hundreds___ tens and ___ ones

75

STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to read and write 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


TERM 2

Week 1 Lesson 5

Reading and writing numbers

Activity

Read and write the numbers in symbols

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80

Work to do

Read and write the numbers in symbols

73	46	74	21	65	55	38	14
62	60	53	80	77	52	43	6

76

Introduction

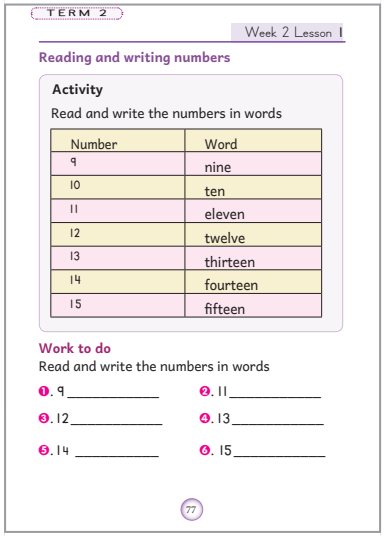
Learners to read and write number symbols up to 50

Development

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

Extended Learning: Learners to read and write number symbols at 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 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


TERM 2

Week 2 Lesson 1

Reading and writing numbers

Activity

Read and write the numbers in words

Number	Word
9	nine
10	ten
11	eleven
12	twelve
13	thirteen
14	fourteen
15	fifteen

Work to do

Read and write the numbers in words

1. 9 _____ 2. 11 _____

3. 12 _____ 4. 13 _____

5. 14 _____ 6. 15 _____

77

Introduction

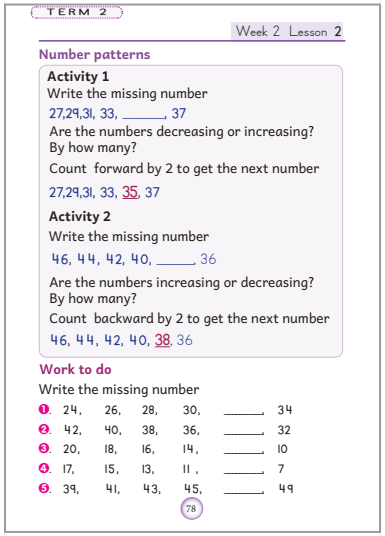
Learners to answers questions on how to write numbers 11 to 15 words.

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 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


TERM 2

Week 2 Lesson 2

Number patterns

Activity 1

Write the missing number

27,29,31, 33, _____, 37

Are the numbers decreasing or increasing?
By how many?

Count forward by 2 to get the next number

27,29,31, 33, 35, 37

Activity 2

Write the missing number

46, 44, 42, 40, _____, 36

Are the numbers increasing or decreasing?
By how many?

Count backward by 2 to get the next number

46, 44, 42, 40, 38, 36

Work to do

Write the missing number

1. 24, 26, 28, 30, _____, 34
2. 42, 40, 38, 36, _____, 32
3. 20, 18, 16, 14, _____, 10
4. 17, 15, 13, 11, _____, 7
5. 39, 41, 43, 45, _____, 49

78

Introduction

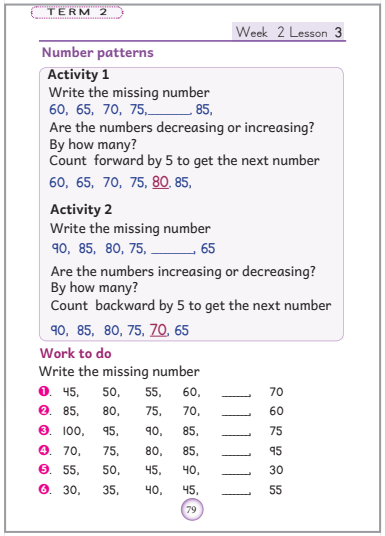
Learners to count in 2's up to 50 both forward and backward.

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 Learners Activities	**Guide:** Learners in 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.

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


TERM 2

Week 2 Lesson 3

Number patterns

Activity 1

Write the missing number

60, 65, 70, 75, _____, 85,

Are the numbers decreasing or increasing?

By how many?

Count forward by 5 to get the next number

60, 65, 70, 75, 80, 85,

Activity 2

Write the missing number

90, 85, 80, 75, _____, 65

Are the numbers increasing or decreasing?

By how many?

Count backward by 5 to get the next number

90, 85, 80, 75, 70, 65

Work to do

Write the missing number

1. 45, 50, 55, 60, ____, 70
2. 85, 80, 75, 70, ____, 60
3. 100, 95, 90, 85, ____, 75
4. 70, 75, 80, 85, ____, 95
5. 55, 50, 45, 40, ____, 30
6. 30, 35, 40, 45, ____, 55

79

Introduction

Learners to count 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 Learners Activities	**Guide:** Learners in 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

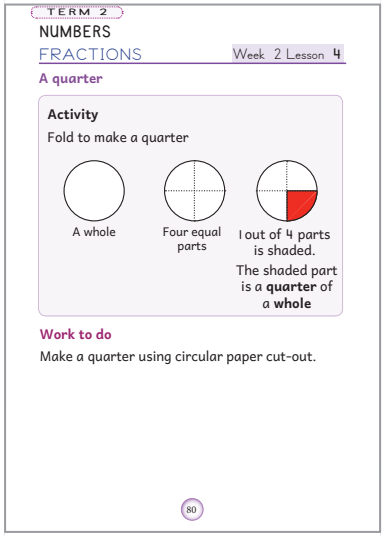
Background Information

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 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 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


TERM 2
NUMBERS
FRACTIONS Week 2 Lesson 4
A quarter
Activity
Fold to make a quarter
A whole
Four equal parts
1 out of 4 parts is shaded.
The shaded part is a quarter of a whole
Work to do
Make a quarter using circular paper cut-out.
80

Introduction

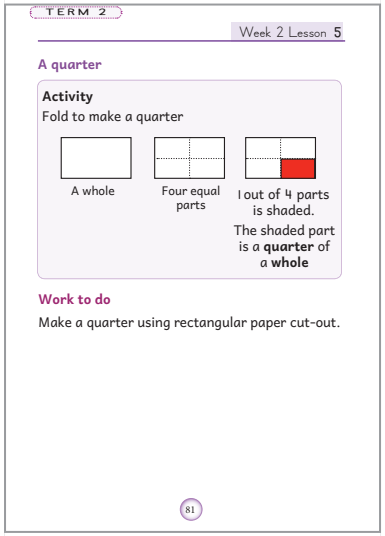
Learners to answer questions on how they share items in school,at home and in the community.

Development

Teacher Activities	**Demonstrate:** Show learners how to identify a quarter as part of a whole using circular paper cut-outs.
Teacher and Learners Activities	**Guide:** Learners in 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


TERM 2

Week 2 Lesson 5

A quarter

Activity

Fold to make a quarter

A whole

Four equal parts

1 out of 4 parts is shaded.

The shaded part is a **quarter** of a **whole**

Work to do

Make a quarter using rectangular paper cut-out.

81

Introduction

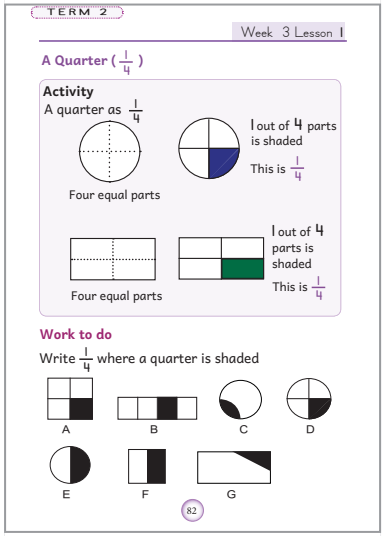
Learners to answer questions on how they share items in school, at home and in the community.

Development

Teacher Activities	**Demonstrate:** Show learners how to identify a quarter as part of a whole using rectangular paper cut-outs.
Teacher and Learners Activities	**Guide:** Learners in 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 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


TERM 2

Week 3 Lesson 1

A Quarter ($\frac{1}{4}$)

Activity

A quarter as $\frac{1}{4}$

Four equal parts

1 out of 4 parts is shaded

This is $\frac{1}{4}$

Four equal parts

1 out of 4 parts is shaded

This is $\frac{1}{4}$

Work to do

Write $\frac{1}{4}$ where a quarter is shaded

A B C D

E F G

82

Introduction

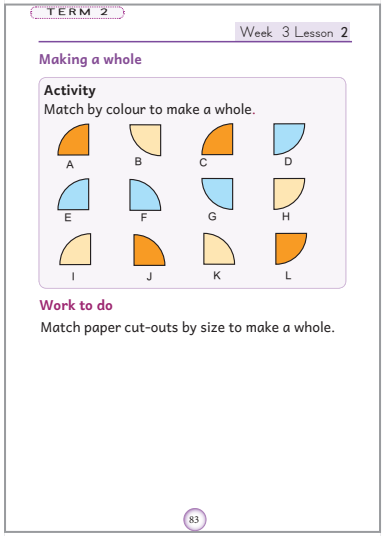
Learners to answer questions on a quarter as part of a whole.

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 Learners Activities	**Guide:** Learners in 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


TERM 2

Week 3 Lesson 2

Making a whole

Activity

Match by colour to make a whole.

A B C D

E F G H

I J K L

Work to do

Match paper cut-outs by size to make a whole.

83

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 quarters of circular paper cut-outs.
Teacher and Learners Activities	**Guide:** Learners in 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.

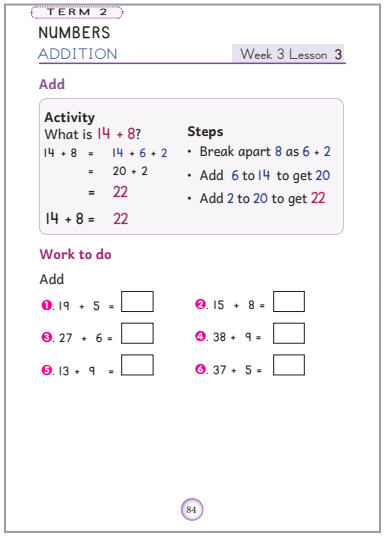
ADDITION

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 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 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


TERM 2
NUMBERS
ADDITION
Week 3 Lesson 3
Add
Activity
What is 14 + 8?
14 + 8 = 14 + 6 + 2
= 20 + 2
= 22
14 + 8 = 22
Steps
• Break apart 8 as 6 + 2
• Add 6 to 14 to get 20
• Add 2 to 20 to get 22
Work to do
Add
1. 19 + 5 =
2. 15 + 8 =
3. 27 + 6 =
4. 38 + 9 =
5. 13 + 9 =
6. 37 + 5 =
84

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
Learner and Teacher's activities	**Write:** 35+ 7 = ☐ **Guide:** Learners in 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.

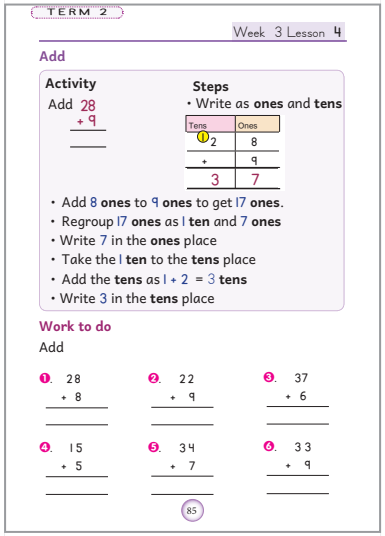
STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to add a 2-digit number to a 1- digit number with regrouping up to a sum of 50 vertically.
SUB-STRAND ADDITION	**Key Inquiry Question; H**ow do you add a 2-digit number to a 1- digit number? **Suggested Learning Resources;** counters, basic addition table, place value apparatus.

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 ——
Learner and Teacher's activities	**Guide:** Learners in pairs or groups to add 25 + 7 with regrouping


TERM 2

Week 3 Lesson 4

Add

Activity

Add 28 + 9

Steps

- Write as **ones** and **tens**

Tens	Ones
1 2	8
+	9
3	7

- Add 8 **ones** to 9 **ones** to get 17 **ones**.
- Regroup 17 **ones** as 1 **ten** and 7 **ones**
- Write 7 in the **ones** place
- Take the 1 **ten** to the **tens** place
- Add the **tens** as 1 + 2 = 3 **tens**
- Write 3 in the **tens** place

Work to do

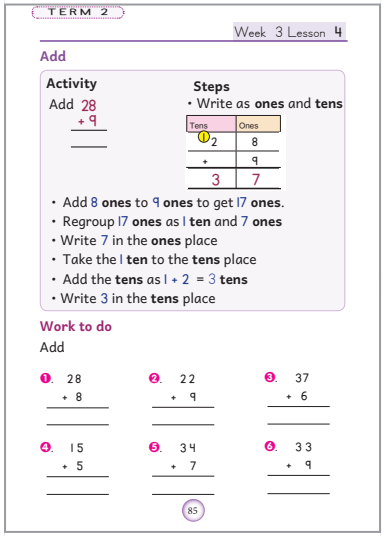
Add

1. 28 + 8 ——
2. 22 + 9 ——
3. 37 + 6 ——
4. 15 + 5 ——
5. 34 + 7 ——
6. 33 + 9 ——

85

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.



TERM 2

Week 3 Lesson 4

Add

Activity

Add 28 + 9

Steps

- Write as **ones** and **tens**

Tens	Ones
1 2	8
+	9
3	7

- Add 8 **ones** to 9 **ones** to get 17 **ones**.
- Regroup 17 **ones** as 1 **ten** and 7 **ones**
- Write 7 in the **ones** place
- Take the 1 **ten** to the **tens** place
- Add the **tens** as 1 + 2 = 3 **tens**
- Write 3 in the **tens** place

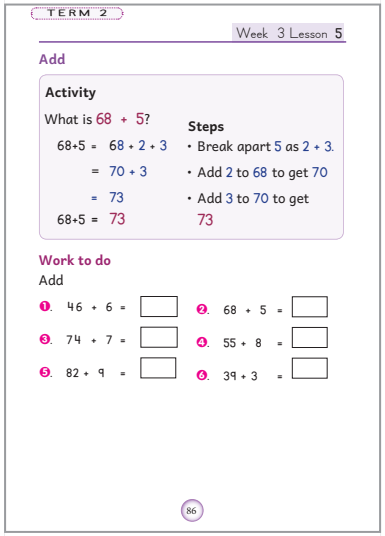
Work to do

Add

1. 28 + 8
2. 22 + 9
3. 37 + 6
4. 15 + 5
5. 34 + 7
6. 33 + 9

85

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; H**ow do you add a 2-digit number to a 1- digit number? **Suggested Learning Resources:** counters, basic addition table


TERM 2

Week 3 Lesson 5

Add

Activity

What is 68 + 5?

68+5 = 68 + 2 + 3
= 70 + 3
= 73
68+5 = 73

Steps

- Break apart 5 as 2 + 3.
- Add 2 to 68 to get 70
- Add 3 to 70 to get 73

Work to do

Add

1. 46 + 6 = ☐
2. 68 + 5 = ☐
3. 74 + 7 = ☐
4. 55 + 8 = ☐
5. 82 + 9 = ☐
6. 39 + 3 = ☐

86

Introduction

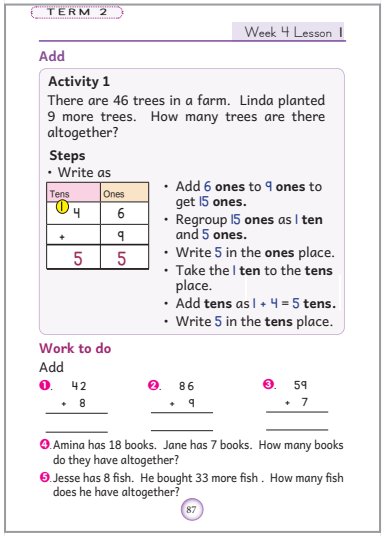
Learners to add a 2 -digit number to a 1 -digit number up to a sum of 50.

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
Learner and Teacher's activities	**Write: 25 + 7 =** ☐ **Guide:** Learners in 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


TERM 2

Week 4 Lesson 1

Add

Activity 1

There are 46 trees in a farm. Linda planted 9 more trees. How many trees are there altogether?

Steps

- Write as

Tens	Ones
1 4	6
+	9
5	5

- Add 6 **ones** to 9 **ones** to get 15 **ones.**
- Regroup 15 **ones** as 1 **ten** and 5 **ones.**
- Write 5 in the **ones** place.
- Take the 1 **ten** to the **tens** place.
- Add **tens** as 1 + 4 = 5 **tens.**
- Write 5 in the **tens** place.

Work to do

Add

1. 42 + 8
2. 86 + 9
3. 59 + 7

4. Amina has 18 books. Jane has 7 books. How many books do they have altogether?
5. Jesse has 8 fish. He bought 33 more fish . How many fish does he have altogether?

87

Introduction

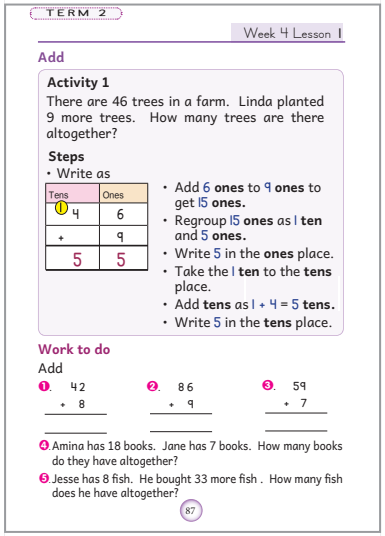
Learners to add a 2 -digit number to a 1 -digit number up to a sum of 50.

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 $^{1}46 + 9 = 55$

Learner and Teacher's Activities	**Write:** 67+ 8 = ☐ **Guide:** Learners in 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.



TERM 2

Week 4 Lesson 1

Add

Activity 1

There are 46 trees in a farm. Linda planted 9 more trees. How many trees are there altogether?

Steps

- Write as

Tens	Ones
1 4	6
+	9
5	5

- Add 6 **ones** to 9 **ones** to get 15 **ones.**
- Regroup 15 **ones** as 1 **ten** and 5 **ones.**
- Write 5 in the **ones** place.
- Take the 1 **ten** to the **tens** place.
- Add **tens** as 1 + 4 = 5 **tens.**
- Write 5 in the **tens** place.

Work to do

Add

1. 42 + 8 = ____
2. 86 + 9 = ____
3. 59 + 7 = ____

4. Amina has 18 books. Jane has 7 books. How many books do they have altogether?
5. Jesse has 8 fish. He bought 33 more fish . How many fish does he have altogether?

87

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

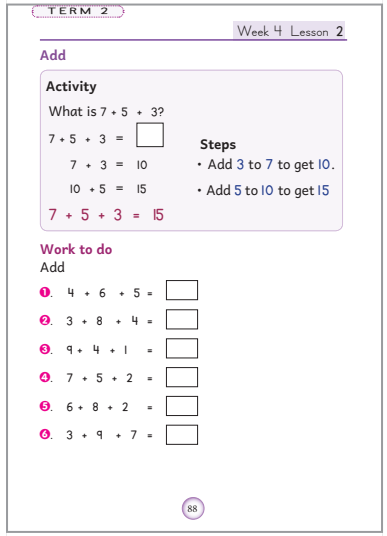
Introduction

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
Learner and Teacher's activities	**Write:** 6 + 4 + 8 = ☐ **Guide:** Learners in 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.


TERM 2

Week 4 Lesson 2

Add

Activity

What is 7 + 5 + 3?

7 + 5 + 3 = ☐

7 + 3 = 10

10 + 5 = 15

7 + 5 + 3 = 15

Steps

- Add 3 to 7 to get 10.
- Add 5 to 10 to get 15

Work to do

Add

1. 4 + 6 + 5 = ☐
2. 3 + 8 + 4 = ☐
3. 9 + 4 + 1 = ☐
4. 7 + 5 + 2 = ☐
5. 6 + 8 + 2 = ☐
6. 3 + 9 + 7 = ☐

88

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

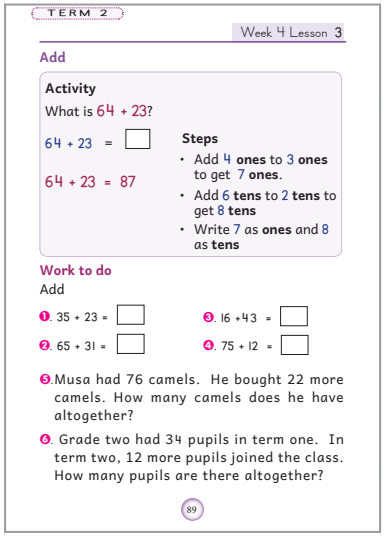
Introduction

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
Learner and Teacher's activities	**Write:** 53 + 26 = ☐ **Guide:** Learners in 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.



TERM 2

Week 4 Lesson 3

Add

Activity

What is 64 + 23?

64 + 23 = ☐

64 + 23 = 87

Steps

- Add 4 **ones** to 3 **ones** to get 7 **ones**.
- Add 6 **tens** to 2 **tens** to get 8 **tens**
- Write 7 as **ones** and 8 as **tens**

Work to do

Add

1. 35 + 23 = ☐
2. 65 + 31 = ☐
3. 16 +43 = ☐
4. 75 + 12 = ☐

5. Musa had 76 camels. He bought 22 more camels. How many camels does he have altogether?
6. Grade two had 34 pupils in term one. In term two, 12 more pupils joined the class. How many pupils are there altogether?

89

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

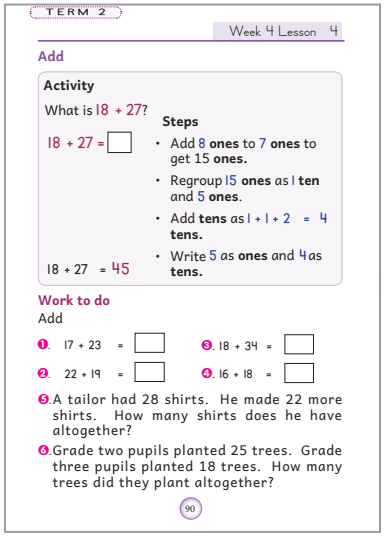
Introduction

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 $\begin{array}{r} {}^{1}18 \\ +\ 27 \\ \hline 45 \end{array}$
Learner and Teacher's activities	**Write:** 26+ 19 = ☐ **Guide:** Learners in 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.



TERM 2

Week 4 Lesson 4

Add

Activity

What is 18 + 27?

18 + 27 = ☐

Steps

- Add 8 **ones** to 7 **ones** to get 15 **ones.**
- Regroup 15 **ones** as 1 **ten** and 5 **ones.**
- Add **tens** as 1 + 1 + 2 = 4 **tens.**
- Write 5 as **ones** and 4 as **tens.**

18 + 27 = 45

Work to do

Add

1. 17 + 23 = ☐
2. 22 + 19 = ☐
3. 18 + 34 = ☐
4. 16 + 18 = ☐
5. A tailor had 28 shirts. He made 22 more shirts. How many shirts does he have altogether?
6. Grade two pupils planted 25 trees. Grade three pupils planted 18 trees. How many trees did they plant altogether?

90

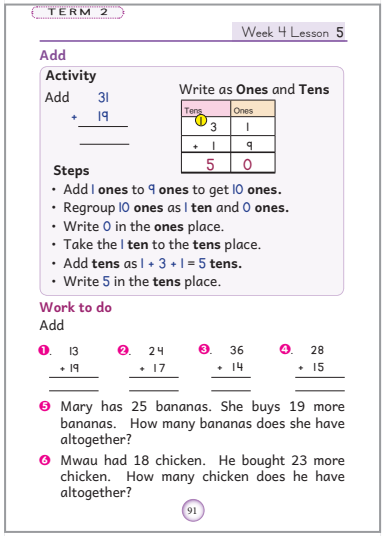
STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to add a 2-digit number to a 2- digit number up to a sum of 50 with regrouping vertically.
SUB-STRAND ADDITION	**Key Inquiry Question:**How do you add a 2-digit number to a 2-digit number? **Suggested Learning Resources:** counters, basic addition facts table, place value apparatus

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
Learner and Teacher's activities	**Write:** 26 + 18 ___ **Guide:** Learners in pairs or groups to work out 26 + 18


TERM 2

Week 4 Lesson 5

Add

Activity

Add 31 + 19

Write as **Ones** and **Tens**

Tens	Ones
3	1
+ 1	9
5	0

Steps

- Add 1 **ones** to 9 **ones** to get 10 **ones.**
- Regroup 10 **ones** as 1 **ten** and 0 **ones.**
- Write 0 in the **ones** place.
- Take the 1 **ten** to the **tens** place.
- Add **tens** as 1 + 3 + 1 = 5 **tens.**
- Write 5 in the **tens** place.

Work to do

Add

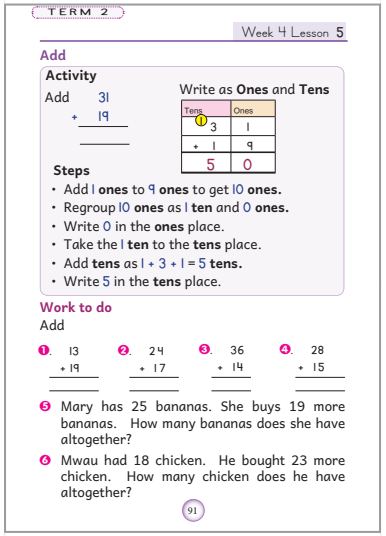
1. 13 + 19
2. 24 + 17
3. 36 + 14
4. 28 + 15

5. Mary has 25 bananas. She buys 19 more bananas. How many bananas does she have altogether?
6. Mwau had 18 chicken. He bought 23 more chicken. How many chicken does he have altogether?

91

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.



TERM 2

Week 4 Lesson 5

Add

Activity

Add 31 + 19

Write as **Ones** and **Tens**

Tens	Ones
3	1
+ 1	9
5	0

Steps

- Add 1 **ones** to 9 **ones** to get 10 **ones.**
- Regroup 10 **ones** as 1 **ten** and 0 **ones.**
- Write 0 in the **ones** place.
- Take the 1 **ten** to the **tens** place.
- Add **tens** as 1 + 3 + 1 = 5 **tens.**
- Write 5 in the **tens** place.

Work to do

Add

1. 13 + 19
2. 24 + 17
3. 36 + 14
4. 28 + 15

5. Mary has 25 bananas. She buys 19 more bananas. How many bananas does she have altogether?
6. Mwau had 18 chicken. He bought 23 more chicken. How many chicken does he have altogether?

91

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

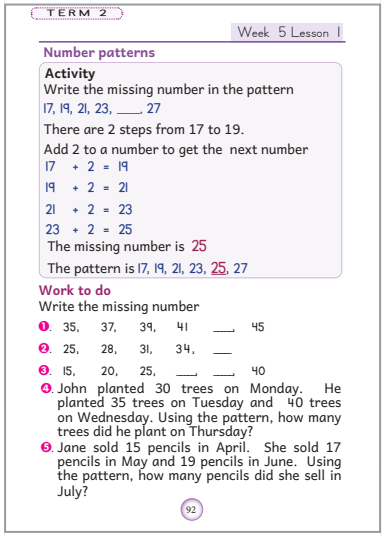
Introduction

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
Learner and Teacher's activities	**Write:** The pattern 16, 20, 24, 28, ___, ___ **Guide:** Learners in 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.



TERM 2

Week 5 Lesson 1

Number patterns

Activity

Write the missing number in the pattern

17, 19, 21, 23, ___, 27

There are 2 steps from 17 to 19.

Add 2 to a number to get the next number

17 + 2 = 19

19 + 2 = 21

21 + 2 = 23

23 + 2 = 25

The missing number is 25

The pattern is 17, 19, 21, 23, 25, 27

Work to do

Write the missing number

1. 35, 37, 39, 41 ___, 45
2. 25, 28, 31, 34, ___
3. 15, 20, 25, ___, ___, 40
4. John planted 30 trees on Monday. He planted 35 trees on Tuesday and 40 trees on Wednesday. Using the pattern, how many trees did he plant on Thursday?
5. Jane sold 15 pencils in April. She sold 17 pencils in May and 19 pencils in June. Using the pattern, how many pencils did she sell in July?

92

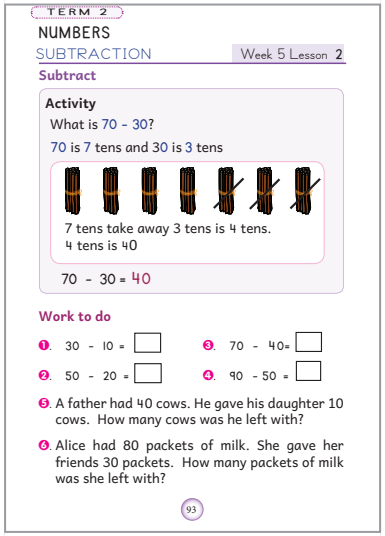
SUBTRACTION

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 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 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


TERM 2
NUMBERS
SUBTRACTION Week 5 Lesson 2
Subtract
Activity
What is 70 - 30?
70 is 7 tens and 30 is 3 tens
7 tens take away 3 tens is 4 tens.
4 tens is 40
70 - 30 = 40
Work to do
1. 30 - 10 =
2. 50 - 20 =
3. 70 - 40 =
4. 90 - 50 =
5. A father had 40 cows. He gave his daughter 10 cows. How many cows was he left with?
6. Alice had 80 packets of milk. She gave her friends 30 packets. How many packets of milk was she left with?
93

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
Learner and Teacher's activities	**Write:** 60 - 20 = ☐ **Guide:**Learners in 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

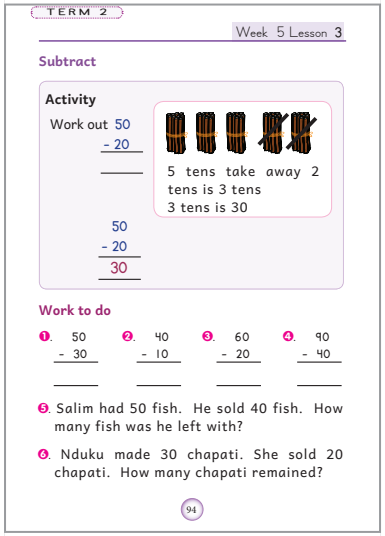
Introduction

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.
Learner and Teacher's activities	**Write**: 70 - 50 ____ ____ **Guide:**Learners in 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.


TERM 2

Week 5 Lesson 3

Subtract

Activity

Work out 50 - 20 = _____

5 tens take away 2 tens is 3 tens
3 tens is 30

50
- 20
30

Work to do

1. 50 - 30 = _____
2. 40 - 10 = _____
3. 60 - 20 = _____
4. 90 - 40 = _____

5. Salim had 50 fish. He sold 40 fish. How many fish was he left with?
6. Nduku made 30 chapati. She sold 20 chapati. How many chapati remained?

94

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

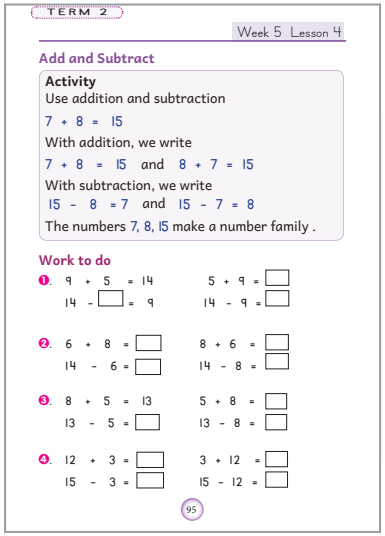
Introduction

Learners to add and subtract single digit numbers.

Development

Teacher Activities	**Write**: $7 + 8 = \boxed{15}$ and $8 + 7 = \boxed{15}$ $15 - \square = 7$ $15 - \square = 8$ **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
Learner and Teacher's activities	**Write:** $6 + 9 = \boxed{15}$ and $9 + 6 = \boxed{15}$ **Guide:** Learners in 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-digitnumbers using the relationship between addition and subtraction.

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


TERM 2

Week 5 Lesson 4

Add and Subtract

Activity

Use addition and subtraction

7 + 8 = 15

With addition, we write

7 + 8 = 15 and 8 + 7 = 15

With subtraction, we write

15 - 8 = 7 and 15 - 7 = 8

The numbers 7, 8, 15 make a number family .

Work to do

1. 9 + 5 = 14 5 + 9 = ☐
   14 - ☐ = 9 14 - 9 = ☐
2. 6 + 8 = ☐ 8 + 6 = ☐
   14 - 6 = ☐ 14 - 8 = ☐
3. 8 + 5 = 13 5 + 8 = ☐
   13 - 5 = ☐ 13 - 8 = ☐
4. 12 + 3 = ☐ 3 + 12 = ☐
   15 - 3 = ☐ 15 - 12 = ☐

95

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

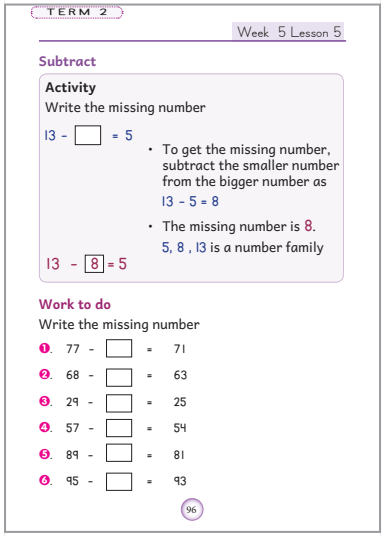
Introduction

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
Learner and Teacher's activities	**Write**: 64 - ☐ = 59 **Guide:** Learners in 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


TERM 2

Week 5 Lesson 5

Subtract

Activity

Write the missing number

13 - ☐ = 5

- To get the missing number, subtract the smaller number from the bigger number as 13 - 5 = 8
- The missing number is 8.

5, 8 , 13 is a number family

13 - 8 = 5

Work to do

Write the missing number

1. 77 - ☐ = 71
2. 68 - ☐ = 63
3. 29 - ☐ = 25
4. 57 - ☐ = 54
5. 89 - ☐ = 81
6. 95 - ☐ = 93

96

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

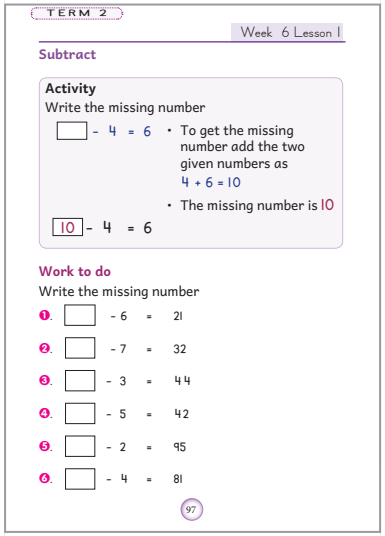
Introduction

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
Learner and Teacher's activities	**Write:** ☐ - 7 = 69 **Guide:** Learners in 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.


TERM 2

Week 6 Lesson 1

Subtract

Activity

Write the missing number

☐ - 4 = 6

- To get the missing number add the two given numbers as 4 + 6 = 10
- The missing number is 10

10 - 4 = 6

Work to do

Write the missing number

1. ☐ - 6 = 21
2. ☐ - 7 = 32
3. ☐ - 3 = 44
4. ☐ - 5 = 42
5. ☐ - 2 = 95
6. ☐ - 4 = 81

97

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

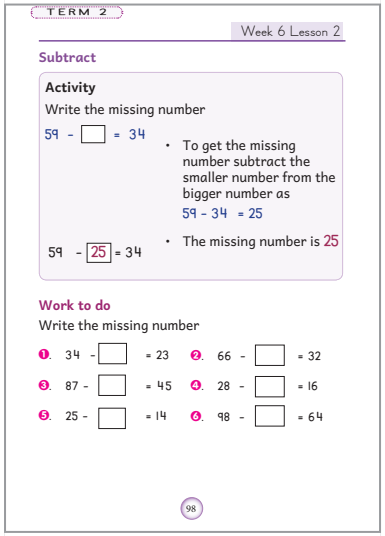
ntroduction

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
Learner and Teacher's activities	**Write:** 77 - ☐ = 26 **Guide:** Learners in 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.


TERM 2

Week 6 Lesson 2

Subtract

Activity

Write the missing number

59 - ☐ = 34

- To get the missing number subtract the smaller number from the bigger number as 59 - 34 = 25
- The missing number is 25

59 - 25 = 34

Work to do

Write the missing number

1. 34 - ☐ = 23
2. 66 - ☐ = 32
3. 87 - ☐ = 45
4. 28 - ☐ = 16
5. 25 - ☐ = 14
6. 98 - ☐ = 64

98

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,

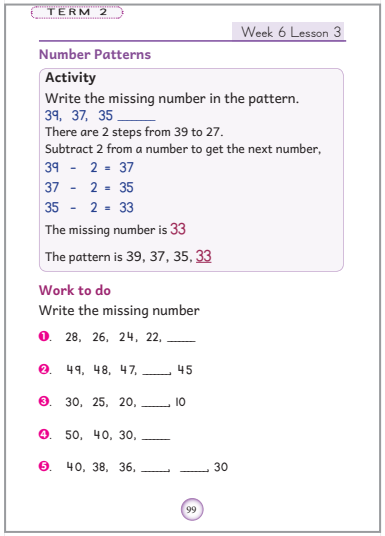
Introduction

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**
Learner and Teacher's activities	**Write**: The pattern 47,45, 43,____ **Guide:** Learners in 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.



TERM 2

Week 6 Lesson 3

Number Patterns

Activity

Write the missing number in the pattern.

39, 37, 35 ____

There are 2 steps from 39 to 27.

Subtract 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

Work to do

Write the missing number

1. 28, 26, 24, 22, ____
2. 49, 48, 47, ____, 45
3. 30, 25, 20, ____, 10
4. 50, 40, 30, ____
5. 40, 38, 36, ____, ____, 30

99

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 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 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

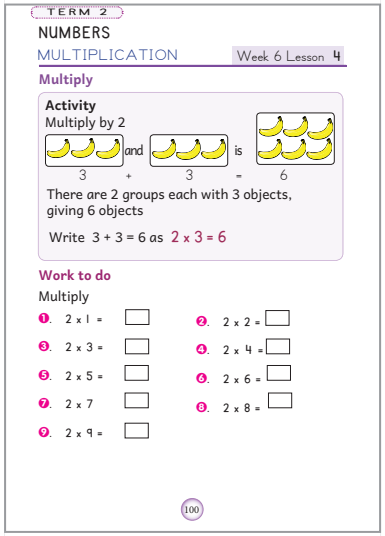
Introduction

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
Learner and Teacher's activities	**Draw:** ΔΔΔΔ and ΔΔΔΔ is ΔΔΔΔΔΔΔΔ 4 + 4 = 8 **Guide:** Learners in 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.


TERM 2
NUMBERS
MULTIPLICATION Week 6 Lesson 4
Multiply
Activity
Multiply by 2
3 + 3 = 6
There are 2 groups each with 3 objects, giving 6 objects
Write 3 + 3 = 6 as 2 x 3 = 6
Work to do
Multiply
1. 2 x 1 =
2. 2 x 2 =
3. 2 x 3 =
4. 2 x 4 =
5. 2 x 5 =
6. 2 x 6 =
7. 2 x 7
8. 2 x 8 =
9. 2 x 9 =
100

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

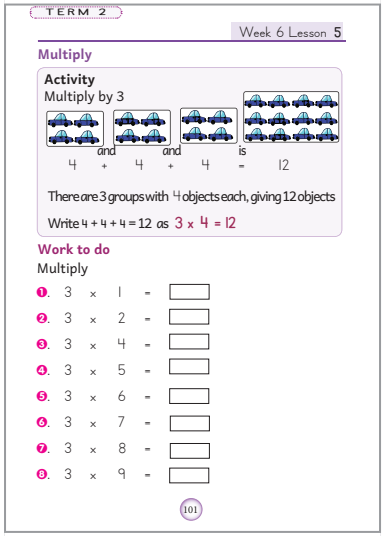
Introduction

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
Learner and Teacher's activities	**Draw:** ΔΔ and ΔΔ and Δ Δ is ΔΔΔΔΔΔ 2 + 2 + 2 = 6 **Guide:** Learners in pairs or groups to multiply single digit numbers by 3
Learner Activities	Learners to do activities in pupil's book page 101
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.


TERM 2

Week 6 Lesson 5

Multiply

Activity

Multiply by 3

4 and 4 and 4 is 12

There are 3 groups with 4 objects each, giving 12 objects

Write 4 + 4 + 4 = 12 as 3 x 4 = 12

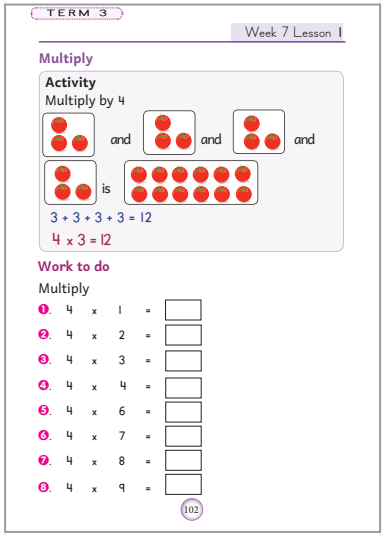
Work to do

Multiply

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

101

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


TERM 3

Week 7 Lesson 1

Multiply

Activity

Multiply by 4

and and and

is

3 + 3 + 3 + 3 = 12

4 x 3 = 12

Work to do

Multiply

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

102

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
Learner and Teacher's activities	**Draw:** ΔΔΔΔ and ΔΔΔΔ and ΔΔΔΔ and ΔΔΔΔ is ΔΔΔΔΔΔΔΔΔΔΔΔΔΔΔΔ 4 + 4 + 4 + 4 = 16 **Guide:** Learners in 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.

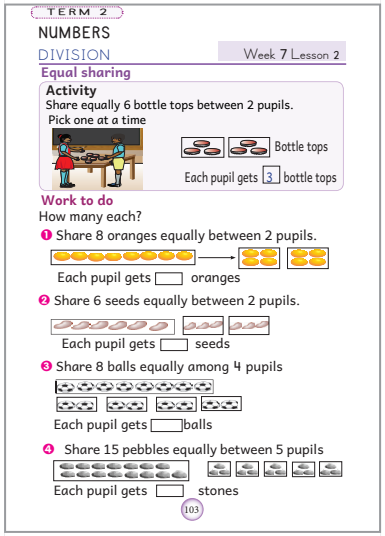
DIVISION

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 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 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.


TERM 2
NUMBERS
DIVISION
Week 7 Lesson 2
Equal sharing
Activity
Share equally 6 bottle tops between 2 pupils.
Pick one at a time
Bottle tops
Each pupil gets 3 bottle tops
Work to do
How many each?
1 Share 8 oranges equally between 2 pupils.
Each pupil gets ☐ oranges
2 Share 6 seeds equally between 2 pupils.
Each pupil gets ☐ seeds
3 Share 8 balls equally among 4 pupils
Each pupil gets ☐ balls
4 Share 15 pebbles equally between 5 pupils
Each pupil gets ☐ stones
103

Introduction

Learners to share 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 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.

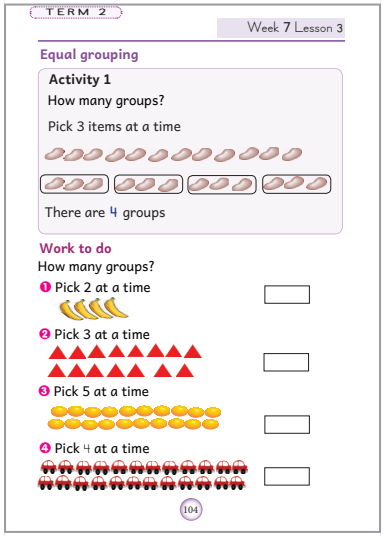
Introduction

Learners to share 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 pairs or groups to form groups of 4 from 20 sticks. Count and write 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


TERM 2

Week 7 Lesson 3

Equal grouping

Activity 1

How many groups?

Pick 3 items at a time

There are 4 groups

Work to do

How many groups?

1 Pick 2 at a time

2 Pick 3 at a time

3 Pick 5 at a time

4 Pick 4 at a time

104

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.

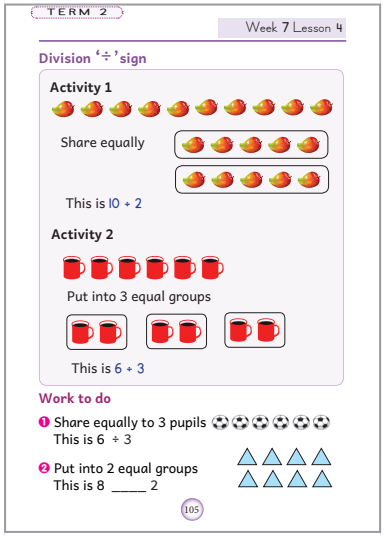
Introduction

Learners to share 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 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
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.

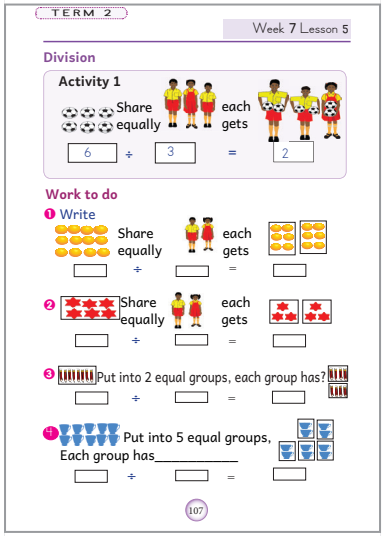
Introduction

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 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 division sentences to represent equal sharing and equal grouping.

Extended Learning: Learners to practise writing 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

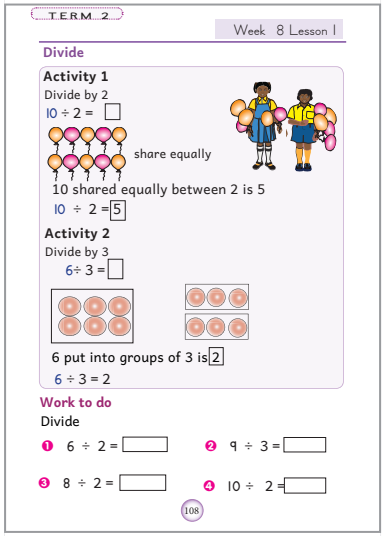
Introduction

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 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.


TERM 2

Week 8 Lesson 1

Divide

Activity 1

Divide by 2

10 ÷ 2 = ☐

share equally

10 shared equally between 2 is 5

10 ÷ 2 = 5

Activity 2

Divide by 3

6 ÷ 3 = ☐

6 put into groups of 3 is 2

6 ÷ 3 = 2

Work to do

Divide

1. 6 ÷ 2 = ☐
2. 9 ÷ 3 = ☐
3. 8 ÷ 2 = ☐
4. 10 ÷ 2 = ☐

108

MEASUREMENT

General Learning Outcome :

By the end of this strand, the learner should be able to apply measurement skills to find solutions to problems in a variety of contexts.

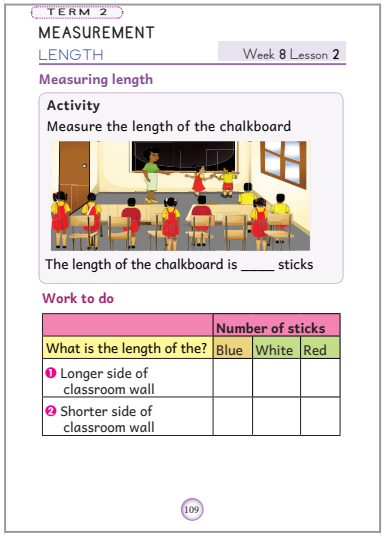
LENGTH

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 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 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.


TERM 2
MEASUREMENT
LENGTH
Week 8 Lesson 2
Measuring length
Activity
Measure the length of the chalkboard
The length of the chalkboard is ____ sticks
Work to do

	Number of sticks		
What is the length of the?	Blue	White	Red
❶ Longer side of classroom wall			
❷ Shorter side of classroom wall			

109

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 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
Conclusion	Compare the lengths using the metre stick.

Extended Learning: Learners to discuss with family members the use of metre to measure length.

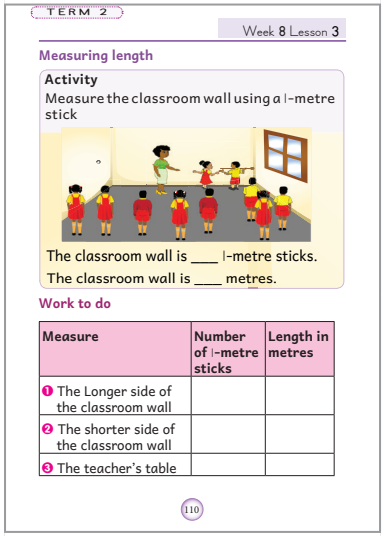
STRAND MEASUREMENT	**Specific Lesson Learning Outcome** By the end of the lesson the learner should be able to measure length using the metre.
SUB-STRAND LENGTH	**Key Inquiry Question:** Why do we use the metre in measuring length? **Suggested Learning Resources:** 1- metre sticks

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 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 1-metre sticks.

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


TERM 2
Week 8 Lesson 3
Measuring length
Activity
Measure the classroom wall using a 1-metre stick
The classroom wall is ___ 1-metre sticks.
The classroom wall is ___ metres.
Work to do

Measure	Number of 1-metre sticks	Length in metres
1 The Longer side of the classroom wall		
2 The shorter side of the classroom wall		
3 The teacher's table		

110

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 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 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

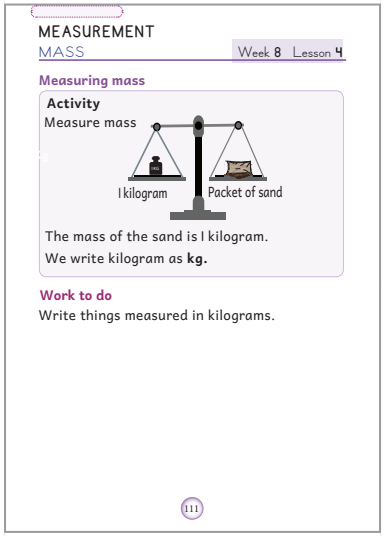
Introduction

Learners to share their experiences on measuring mass.

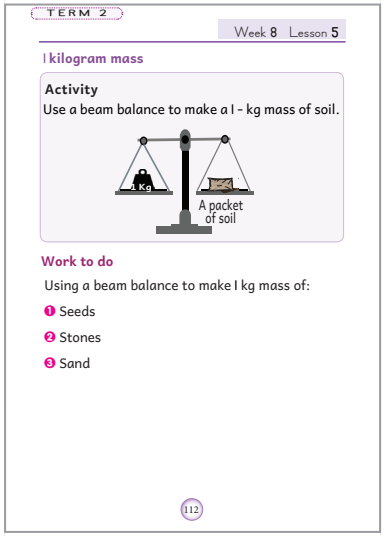
Development

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 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.


MEASUREMENT
MASS
Week 8 Lesson 4
Measuring mass
Activity
Measure mass
1 kilogram
Packet of sand
The mass of the sand is 1 kilogram.
We write kilogram as kg.
Work to do
Write things measured in kilograms.
111

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


TERM 2

Week 8 Lesson 5

1 kilogram mass

Activity

Use a beam balance to make a 1 - kg mass of soil.

1 kg

A packet of soil

Work to do

Using a beam balance to make 1 kg mass of:

1. Seeds
2. Stones
3. Sand

112

Introduction

Learners to name 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 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 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 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

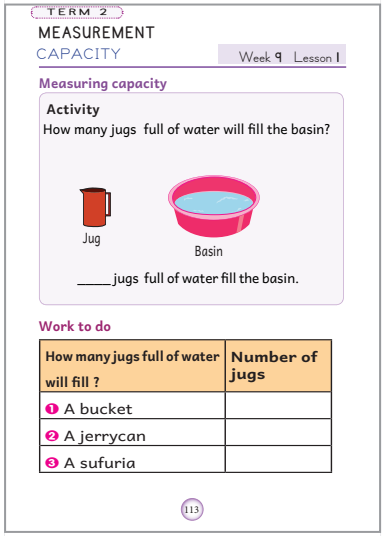
Introduction

Learners to share experiences on filling of containers

Development

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 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.

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



TERM 2

MEASUREMENT

CAPACITY

Week 9 Lesson 1

Measuring capacity

Activity

How many jugs full of water will fill the basin?

Jug

Basin

____ jugs full of water fill the basin.

Work to do

How many jugs full of water will fill ?	Number of jugs
❶ A bucket	
❷ A jerrycan	
❸ A sufuria	

113

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, 1-litre tin

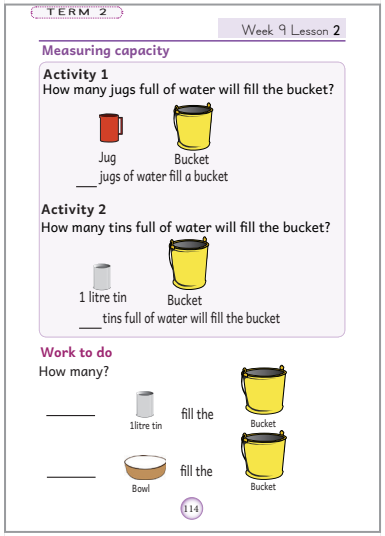
Introduction

Learners to share 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 Activities"	**Guide**: Learners in 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.


TERM 2

Week 9 Lesson 2

Measuring capacity

Activity 1

How many jugs full of water will fill the bucket?

Jug Bucket

___ jugs of water fill a bucket

Activity 2

How many tins full of water will fill the bucket?

1 litre tin Bucket

___ tins full of water will fill the bucket

Work to do

How many?

___ 1litre tin fill the Bucket

___ Bowl fill the Bucket

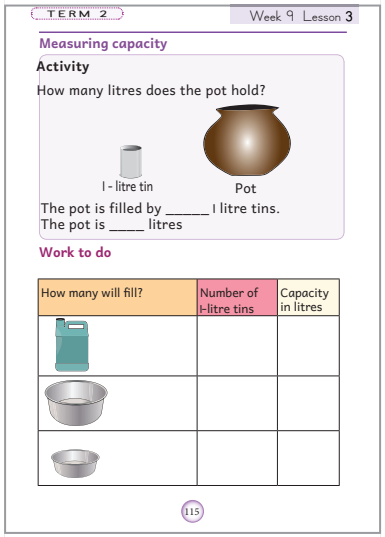
114

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

Introduction
Learners to name 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 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.


TERM 2 Week 9 Lesson 3

Measuring capacity

Activity

How many litres does the pot hold?

1 - litre tin Pot

The pot is filled by _____ l litre tins.
The pot is _____ litres

Work to do

How many will fill?	Number of l-litre tins	Capacity in litres

115

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 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 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:** Chart on National Anthem in Kiswahili

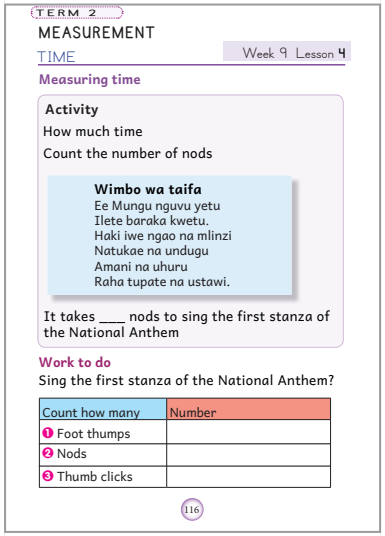
Introduction

Learners to sing 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 at equal intervals. Have a learner count the number of nods as you sing. **Write**: On the board the number of nods.
Teacher and Learner Activities	**Guide**: Learners in pairs or groups to sing the National Anthem in Kiswahili while foot thumping. Record the number of foot thumps. Repeat the activity using nods and thump 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 a familiar song while foot thumping and record the number of foot thumps.

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



TERM 2

MEASUREMENT

TIME Week 9 Lesson 4

Measuring time

Activity

How much time

Count the number of nods

Wimbo wa taifa
Ee Mungu nguvu yetu
Ilete baraka kwetu.
Haki iwe ngao na mlinzi
Natukae na undugu
Amani na uhuru
Raha tupate na ustawi.

It takes ___ nods to sing the first stanza of the National Anthem

Work to do

Sing the first stanza of the National Anthem?

Count how many	Number
❶ Foot thumps	
❷ Nods	
❸ Thumb clicks	

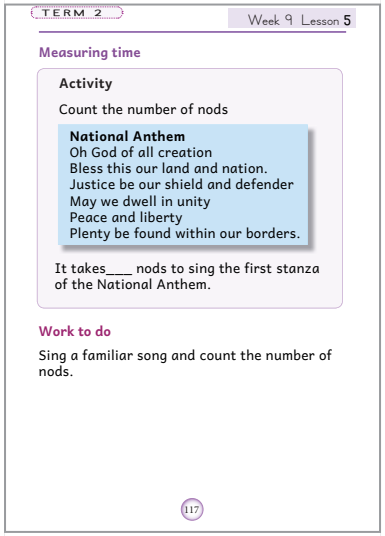
116

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

Introduction
Learners to sing 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 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 a familiar song while nodding and record the number of nods.

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


TERM 2 Week 9 Lesson 5

Measuring time

Activity

Count the number of nods

National Anthem
Oh God of all creation
Bless this our land and nation.
Justice be our shield and defender
May we dwell in unity
Peace and liberty
Plenty be found within our borders.

It takes___ nods to sing the first stanza of the National Anthem.

Work to do

Sing a familiar song and count the number of nods.

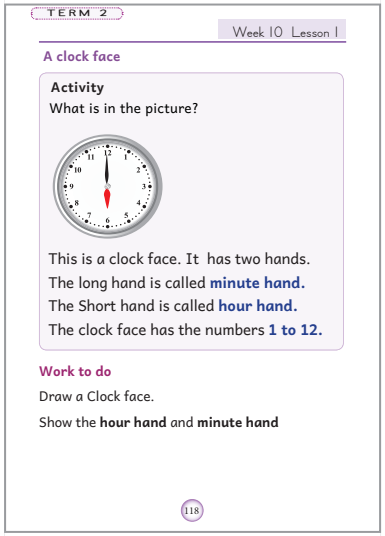
117

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

Introduction:
Learners to share 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 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.

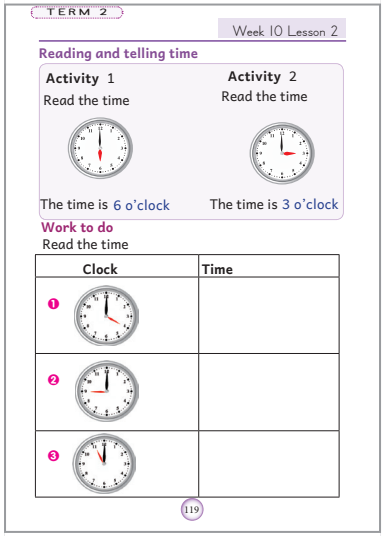

TERM 2
Week 10 Lesson 1
A clock face
Activity
What is in the picture?
This is a clock face. It has two hands.
The long hand is called minute hand.
The Short hand is called hour hand.
The clock face has the numbers 1 to 12.
Work to do
Draw a Clock face.
Show the hour hand and minute hand
118

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

Introduction:
Learners to share 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 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.


TERM 2
Week 10 Lesson 2
Reading and telling time
Activity 1
Read the time
The time is 6 o'clock
Activity 2
Read the time
The time is 3 o'clock
Work to do
Read the time
Clock
Time
1
2
3
119

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.

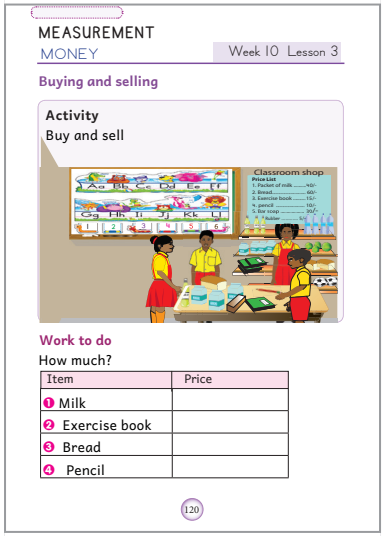
The development of core competencies would be enhanced as learners work in pairs or groups. The teacher should link the various components in the curriculum designs. These components include but not limited to discussing issues like safety of materials being used (PCIs), values that can be nurtured such as unity, 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

Introduction
Learners to share 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 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.


MEASUREMENT
MONEY
Week 10 Lesson 3
Buying and selling
Activity
Buy and sell
Classroom shop
Work to do
How much?

Item	Price
1 Milk	
2 Exercise book	
3 Bread	
4 Pencil	

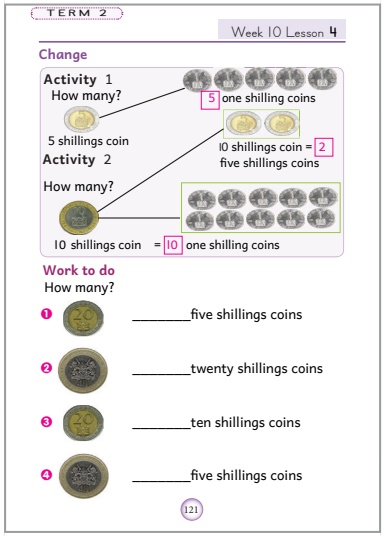
120

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

Introduction
Learners to share 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 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.



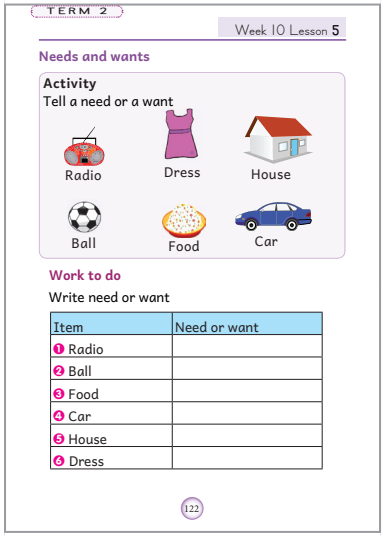
STRAND MEASUREMENT	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to differentiate needs and wants.
SUB-STRAND MONEY	**Key Inquiry Question:** How can you choose what to do with your money? **Suggested Learning Resources:** pictures of toys, water, food, dress, bar soap, ball.

Introduction
Learners to share 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 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.


TERM 2

Week 10 Lesson 5

Needs and wants

Activity

Tell a need or a want

Radio Dress House

Ball Food Car

Work to do

Write need or want

Item	Need or want
1 Radio	
2 Ball	
3 Food	
4 Car	
5 House	
6 Dress	

122

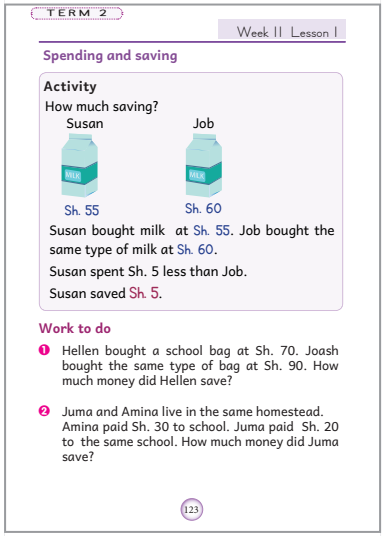
STRAND MEASUREMENT	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to appreciate spending and saving in real life.
SUB-STRAND MONEY	**Key Inquiry Question:** Why do you save money? **Suggested Learning Resources:** real money in coins and notes

Introduction
Learners to share 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 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.


TERM 2
Week 11 Lesson 1
Spending and saving
Activity
How much saving?
Susan
Job
Sh. 55
Sh. 60
Susan bought milk at Sh. 55. Job bought the same type of milk at Sh. 60.
Susan spent Sh. 5 less than Job.
Susan saved Sh. 5.
Work to do
1 Hellen bought a school bag at Sh. 70. Joash bought the same type of bag at Sh. 90. How much money did Hellen save?
2 Juma and Amina live in the same homestead. Amina paid Sh. 30 to school. Juma paid Sh. 20 to the same school. How much money did Juma save?
123

GEOMETRY

General Learning Outcome :

By the end of this strand, 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 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 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 and rope


TERM 2
GEOMETRY
LINES
Week 11 Lesson 2
Making straight lines
Activity
Make straight lines
Work to do
Use plasticine or clay to make straight lines
124

Introduction
Learners to draw 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 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

Introduction
Learners to draw 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 Learners' Activities	**Guide:** Learners in 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 straight lines in their exercise books.

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


TERM 2
Week 11 Lesson 3
Drawing straight lines
Activity
Draw straight lines
These are straight lines
Work to do
Draw straight lines
125

SHAPES

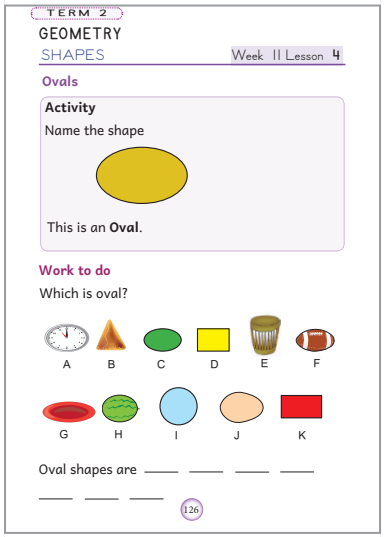
Background Information

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 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 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.

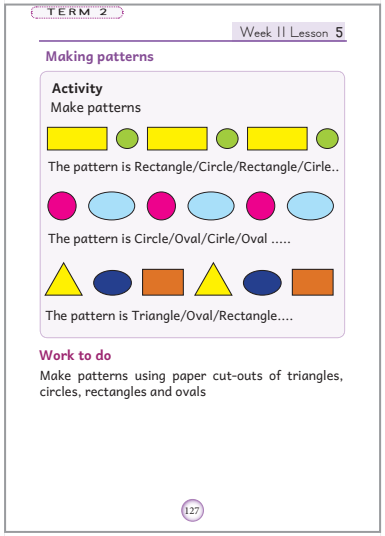

TERM 2
GEOMETRY
SHAPES
Week 11 Lesson 4
Ovals
Activity
Name the shape
This is an **Oval**.
Work to do
Which is oval?
A B C D E F
G H I J K
Oval shapes are ____ ____ ____ ____
____ ____ ____
126

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 Learners' Activities	**Guide:** Learners in 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 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 cuto-uts of rectangles, triangles,circles and ovals of different colours..


TERM 2

Week 11 Lesson 5

Making patterns

Activity

Make patterns

The pattern is Rectangle/Circle/Rectangle/Cirle..

The pattern is Circle/Oval/Cirle/Oval .....

The pattern is Triangle/Oval/Rectangle....

Work to do

Make patterns using paper cut-outs of triangles, circles, rectangles and ovals

127

ntroduction

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 pairs or groups to make 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 patterns using rectangles, triangles, circles and ovals in school and at their home.

ANSWERS TO WORK TO DO TERM 2

Week 1 Lesson 1

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

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

Week 1 Lesson 2

b. 66 c. 79 d. 70

Week 1 Lesson 3

1. Teacher to listen as learners count forward by 5 from 5 to 100

2. Teacher to listen as learners count backward by 5 from 100 to 5

Week 1 Lesson 4

1. **0** Hundreds **3** Tens **6** Ones 3. **0** Hundreds **7** Tens **7** Ones
2. **1** Hundreds **0** Tens **0** Ones

Week 1 Lesson 5

Teacher to listen as learners read and write the numbers in symbols.

Week2 Lesson 1

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

Week 2 Lesson 2

1. 32 2. 30 3. 12 4. 9 5. 47

Week 2 Lesson 3

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

Week 2 Lesson 4

Teacher to observe as the learners carry out the activity.

Week 2 Lesson 5

Teacher to observe as the learners carry out the activity.

Week 3 Lesson 1

A, B, D

Week 3 Lesson 2

Teacher to observe as the learners carry out the activity.

Week 3 Lesson 3

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

Week 3 Lesson 4

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

Week 3 Lesson 5

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

Week 4 Lesson 1

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 Lesson 3

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

Week 4 Lesson 4

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

Week 4 Lesson 5

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

Week 5 Lesson 1

1. 43 2. 37 3. 30, 35 4. 45 5. 21

Week 5 Lesson 2

1. 20 2. 30 3. 30 4. 40 5. 30 6. 50

Week 5 Lesson 3

1. 20 2. 30 3. 40 4. 50 5. 10 6. 10

Week 5 Lesson 4

1. 5; 14, 5 2. 14, 8; 14, 6 3. 8; 13, 5 4. 15, 12; 15, 3

Week 5 Lesson 5

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

Week 6 Lesson 1

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

Week 6 Lesson 2

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

Week 6 Lesson 3

1. 20 2. 46 3. 15 4. 20 5. 34, 32

Week 6 Lesson 4

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

Week 6 Lesson 5

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

Week 7 Lesson 1

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

Week 7 Lesson 2

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

Week 7 Lesson 3

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

Week 7 Lesson4

1. 2 2. ÷ 3. ÷ 4. 10÷5 5. 10÷5 6. 10÷5 7. 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 and the teacher's table.

Week 8 Lesson 4

Any items 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 jug used.

Week 9 Lesson 2

The answers in this activity will depend on the size of the bucket and the size of bowls and tins used.

Week 9 Lesson 3

The answers in this activity will depend on the size of jerrycan, sufuria and basin.

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 as learners sing, foot thump, nod and thumb click.

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. 202. Sh. 10

Week 11 Lesson 2

Any straight line made

Week 11 Lesson 3

Any straight line drawn

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.

ANSWERS TO I CAN DO 2

1. Teacher to listen and observe as learners read and sign
2. 79
3. Teacher to listen as learners count forward by 5 from 41 to 99
4. Teacher to listen as learner count backward by 5 from 100 to 5
5. 1 hundred, 0 tens, 0 ones
6. Learners to draw any 11 objects
   13
7. 84
8. 75
9. B
10. 31
11. 35
12. 57
13. 35
14. 43
15. 29, 33
16. 20
17. 12
    12
    8
    4
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. Longer than
    Shorter than
    Shorter than
28. Heavier than
    Same as
    Lighter than
    Lighter than
29. Sunday
    Friday
    Thursday
    Monday
    Saturday
30. Need
    Need
    Want
    Want
31. 5
    2
    2
32. A straight line in any direction
33. 

Term 3

NUMBERS

General Learning Outcome :

By the end of this strand, 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 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 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 number symbols up to 100
SUB-STRAND NUMBER CONCEPT	**Key Inquiry Question:** How do you read number symbols? **Suggested Learning Resources:** videos, audios, number cards, number charts

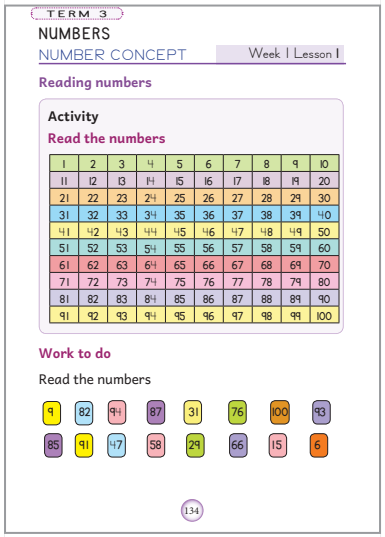
Introduction

Learners to read number symbols up to 80.

Development

Teacher Activities	**Demonstrate:** Show learners how to read number symbols 1 up to 100 on number chart.
Teacher and Learner Activities	**Guide:** Learners in pairs or groups to read number symbols, 1 up to 100 on a chart. Learners to listen to audios on reading numbers.
Learner Activities	Learners to do activities in pupil's book page 134
Conclusion	Learners to read numbers from their tables.

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


TERM 3
NUMBERS
NUMBER CONCEPT
Week 1 Lesson 1
Reading numbers
Activity
Read the numbers
Work to do
Read the numbers
134

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

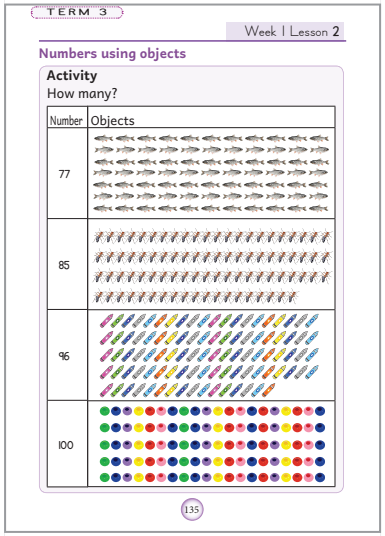
Introduction

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 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 135
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.


TERM 3

Week 1 Lesson 2

Numbers using objects

Activity

How many?

Number	Objects
77	
85	
96	
100	

135

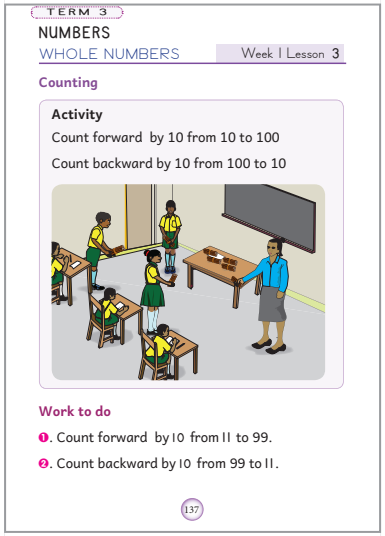
WHOLE NUMBERS

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 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 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


TERM 3
NUMBERS
WHOLE NUMBERS Week 1 Lesson 3
Counting
Activity
Count forward by 10 from 10 to 100
Count backward by 10 from 100 to 10
Work to do
1. Count forward by 10 from 11 to 99.
2. Count backward by 10 from 99 to 11.
137

Introduction

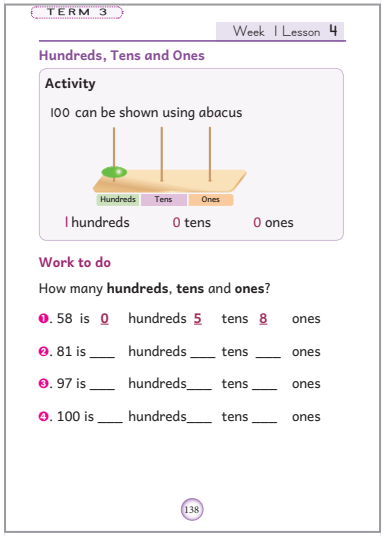
Learners to count 10's up to 80 forward and backward.

Development

Teacher Activities	**Demonstrate:** Show learners how to count in 10's up to100 forward and backward..
Teacher and Learner Activities	**Guide:** Learners in pairs or groups to count 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 137
Conclusion	Learners to play a game involving counting in 10's.

Extended Learning: Learners to practise counting 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:** abacus, rings bottle tops, beads,


TERM 3

Week 1 Lesson 4

Hundreds, Tens and Ones

Activity

100 can be shown using abacus

Hundreds Tens Ones

1 hundreds 0 tens 0 ones

Work to do

How many **hundreds**, **tens** and **ones**?

1. 58 is 0 hundreds 5 tens 8 ones
2. 81 is ___ hundreds ___ tens ___ ones
3. 97 is ___ hundreds___ tens ___ ones
4. 100 is ___ hundreds___ tens ___ ones

138

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-sActivities	**Guide:** Learners in 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 138
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 and write number symbols up to 100
SUB-STRAND WHOLE NUMBERS	**Key Inquiry Question:** How do you read and write numbers? **Suggested Learning Resources:** number chart, number cards, video clips

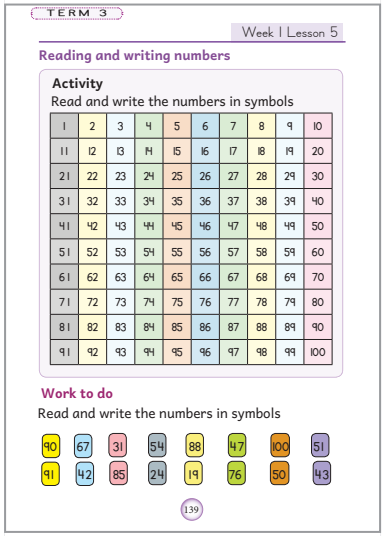
Introduction

Learners to read and write number symbols up to 80

Development

Teacher Activities	**Demonstrate:** Show learners how to read and write numbers 1 up to 100 using number charts and number cards.
Teacher and Learner Activities	**Guide:** Learners in pairs or groups to read and write numbers up to 100 using number cards.
Learner Activities	Learners to do activities in pupil's book page 139
Conclusion	Learners to read and write number symbols up to 100

Extended Learning: Learners to read and write number symbols in school and at home.


TERM 3

Week 1 Lesson 5

Reading and writing numbers

Activity

Read and write the numbers in symbols

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Work to do

Read and write the numbers in symbols

90 67 31 54 88 47 100 51

91 42 85 24 19 76 50 43

139

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.

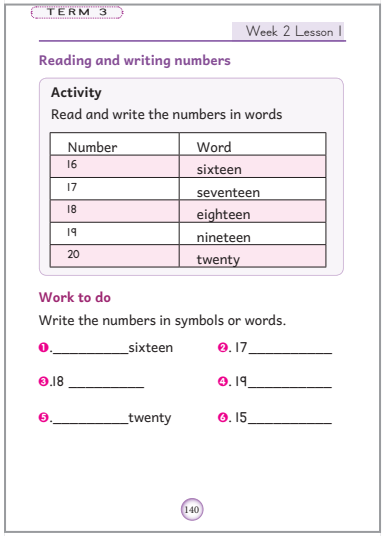
Introduction

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 Learners Activities	**Guide:** Learners in 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 140
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.


TERM 3

Week 2 Lesson 1

Reading and writing numbers

Activity

Read and write the numbers in words

Number	Word
16	sixteen
17	seventeen
18	eighteen
19	nineteen
20	twenty

Work to do

Write the numbers in symbols or words.

1. _____sixteen
2. 17_____
3. 18 _____
4. 19_____
5. _____twenty
6. 15_____

140

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

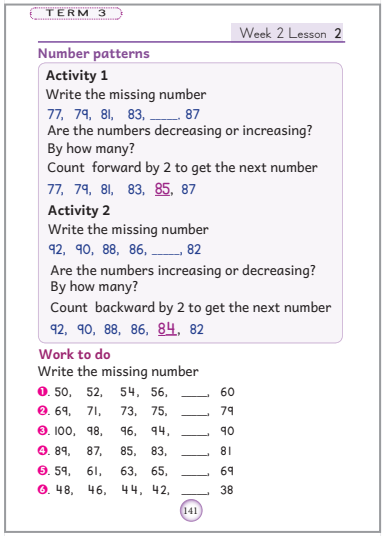
Introduction

Learners to count 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 pairs or groups to work out missing numbers in patterns up to 100.
Learner Activities	Learners to do activities in pupil's book page 141
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.


TERM 3

Week 2 Lesson 2

Number patterns

Activity 1

Write the missing number

77, 79, 81, 83, ____, 87

Are the numbers decreasing or increasing?

By how many?

Count forward by 2 to get the next number

77, 79, 81, 83, 85, 87

Activity 2

Write the missing number

92, 90, 88, 86, ____, 82

Are the numbers increasing or decreasing?

By how many?

Count backward by 2 to get the next number

92, 90, 88, 86, 84, 82

Work to do

Write the missing number

1. 50, 52, 54, 56, ____, 60
2. 69, 71, 73, 75, ____, 79
3. 100, 98, 96, 94, ____, 90
4. 89, 87, 85, 83, ____, 81
5. 59, 61, 63, 65, ____, 69
6. 48, 46, 44, 42, ____, 38

141

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

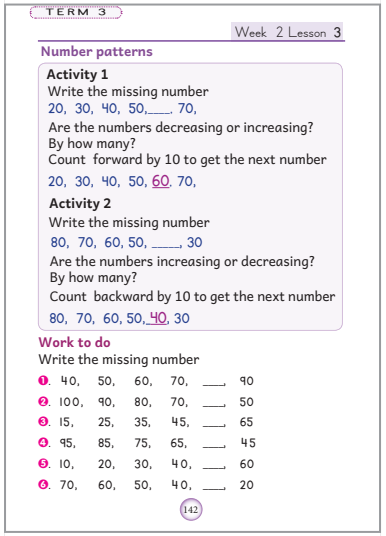
Introduction

Learners to count 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 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	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.


TERM 3

Week 2 Lesson 3

Number patterns

Activity 1

Write the missing number

20, 30, 40, 50, ___, 70,

Are the numbers decreasing or increasing?

By how many?

Count forward by 10 to get the next number

20, 30, 40, 50, 60, 70,

Activity 2

Write the missing number

80, 70, 60, 50, ___, 30

Are the numbers increasing or decreasing?

By how many?

Count backward by 10 to get the next number

80, 70, 60, 50, 40, 30

Work to do

Write the missing number

1. 40, 50, 60, 70, ___, 90
2. 100, 90, 80, 70, ___, 50
3. 15, 25, 35, 45, ___, 65
4. 95, 85, 75, 65, ___, 45
5. 10, 20, 30, 40, ___, 60
6. 70, 60, 50, 40, ___, 20

142

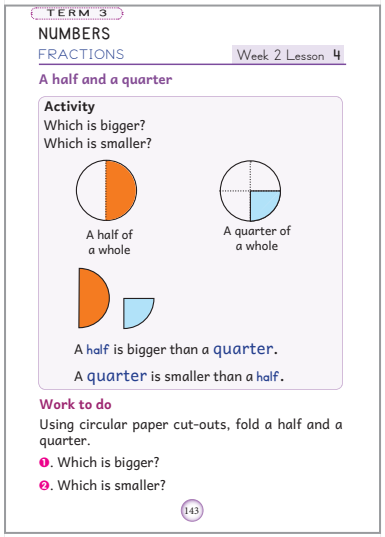
FRACTIONS

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 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 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


TERM 3
NUMBERS
FRACTIONS
Week 2 Lesson 4
A half and a quarter
Activity
Which is bigger?
Which is smaller?
A half of a whole
A quarter of a whole
A half is bigger than a quarter.
A quarter is smaller than a half.
Work to do
Using circular paper cut-outs, fold a half and a quarter.
1. Which is bigger?
2. Which is smaller?
143

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 Learners	**Guide:** Learners in 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 143
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

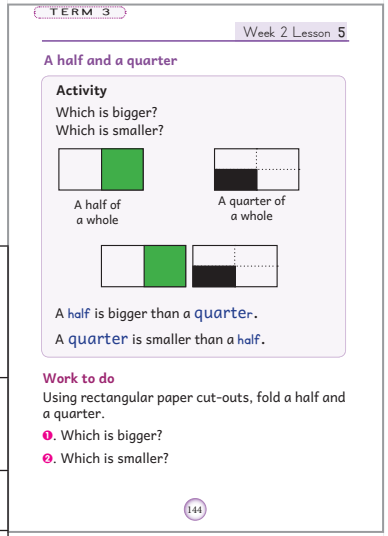
Introduction

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 Learners Activities	**Guide:** Learners in 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 144
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.


TERM 3

Week 2 Lesson 5

A half and a quarter

Activity

Which is bigger?
Which is smaller?

A half of a whole

A quarter of a whole

A half is bigger than a quarter.

A quarter is smaller than a half.

Work to do

Using rectangular paper cut-outs, fold a half and a quarter.

1. Which is bigger?
2. Which is smaller?

144

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


TERM 3

Week 3 Lesson 1

Making a half

Activity

Match by colour to make a half.

A B C D

E F G H

I J K L

Work to do

Match paper cut-outs by size to make a half.

145

Introduction

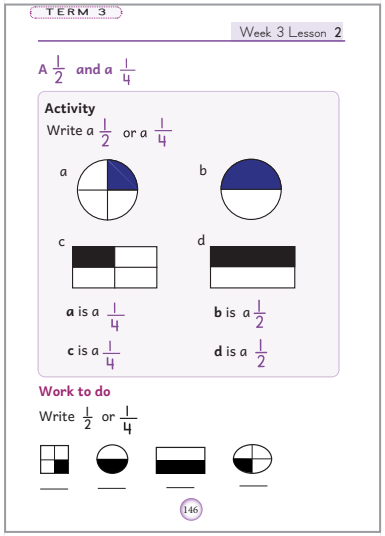
Learners to answer questions on how they share whole items in school, at home and in the community.

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 Learners Activities	**Guide:** Learners in 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 145
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 FRACTIONS	**Key Inquiry Question:** How do you identify ½ and ¼? **Suggested Learning Resources:** paper cut-outs, felt pens, manila paper, glue


TERM 3
Week 3 Lesson 2
A $\frac{1}{2}$ and a $\frac{1}{4}$
Activity
Write a $\frac{1}{2}$ or a $\frac{1}{4}$
a
b
c
d
a is a $\frac{1}{4}$
b is a $\frac{1}{2}$
c is a $\frac{1}{4}$
d is a $\frac{1}{2}$
Work to do
Write $\frac{1}{2}$ or $\frac{1}{4}$
146

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 Learners Activities	**Guide:** Learners in 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 146
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.

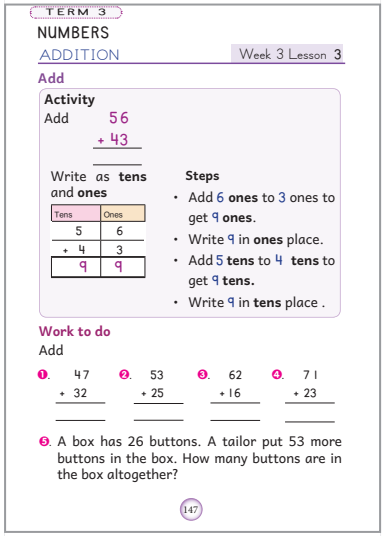
ADDITION

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 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 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


TERM 3
NUMBERS
ADDITION
Week 3 Lesson 3
Add
Activity
Add 56 + 43
Write as tens and ones
Tens | Ones
5 | 6
+ 4 | 3
9 | 9
Steps
- Add 6 ones to 3 ones to get 9 ones.
- Write 9 in ones place.
- Add 5 tens to 4 tens to get 9 tens.
- Write 9 in tens place .
Work to do
Add
1. 47 + 32
2. 53 + 25
3. 62 + 16
4. 71 + 23
5. A box has 26 buttons. A tailor put 53 more buttons in the box. How many buttons are in the box altogether?
147

Introduction

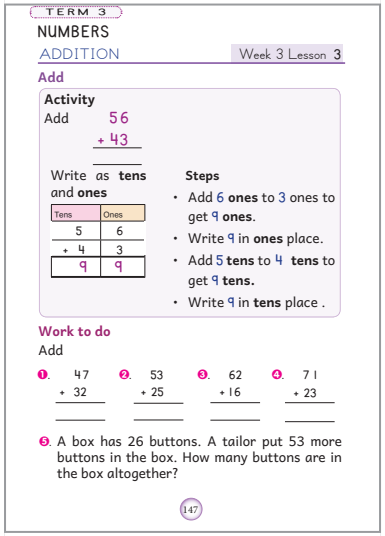
Learners to add a 2 -digit number to a 2 -digit number up to a sum of 50

Development

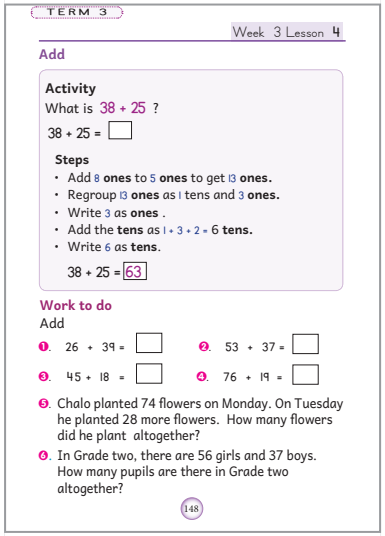
Teacher Activities	**Write:** 56 + 43 ___ **Demonstrate:** Show learners how to add 6 ones to 3 ones to get 9 ones and then write 9 in the ones place. Add 5 tens to 4 tens to get 9 tens then write 9 in the tens place. 56 + 43 99

Learner and Teacher's activities	**Write :** 63 +25 ___ **Guide:** Learners in pairs or groups to work out 63 +25 ___
Learner Activities	Learners to do activities in pupil's book page 147
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.


TERM 3
NUMBERS
ADDITION Week 3 Lesson 3
Add
Activity
Add 56
+ 43
Write as tens and ones
Tens | Ones
5 | 6
+ 4 | 3
9 | 9
Steps
- Add 6 ones to 3 ones to get 9 ones.
- Write 9 in ones place.
- Add 5 tens to 4 tens to get 9 tens.
- Write 9 in tens place .
Work to do
Add
1. 47 + 32
2. 53 + 25
3. 62 + 16
4. 71 + 23
5. A box has 26 buttons. A tailor put 53 more buttons in the box. How many buttons are in the box altogether?
147

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


TERM 3

Week 3 Lesson 4

Add

Activity

What is 38 + 25 ?

38 + 25 = ☐

Steps

- Add 8 **ones** to 5 **ones** to get 13 **ones.**
- Regroup 13 **ones** as 1 tens and 3 **ones.**
- Write 3 as **ones** .
- Add the **tens** as 1 + 3 + 2 = 6 **tens.**
- Write 6 as **tens.**

38 + 25 = 63

Work to do

Add

1. 26 + 39 = ☐
2. 53 + 37 = ☐
3. 45 + 18 = ☐
4. 76 + 19 = ☐
5. Chalo planted 74 flowers on Monday. On Tuesday he planted 28 more flowers. How many flowers did he plant altogether?
6. In Grade two, there are 56 girls and 37 boys. How many pupils are there in Grade two altogether?

148

Introduction

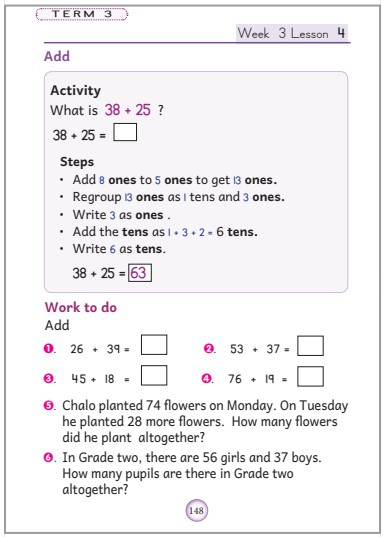
Learners to add a 2 -digit number to a 2 -digit number up to a sum of 50

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 = 63
Learner and Teacher's activities	**Write :** 48 + 46 = ☐ **Guide:** Learners in pairs or groups to work out 48 + 46

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 with regrouping horizontally

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



TERM 3

Week 3 Lesson 4

Add

Activity

What is 38 + 25 ?

38 + 25 = ☐

Steps

- Add 8 **ones** to 5 **ones** to get 13 **ones.**
- Regroup 13 **ones** as 1 tens and 3 **ones.**
- Write 3 as **ones** .
- Add the **tens** as 1 + 3 + 2 = 6 **tens.**
- Write 6 as **tens.**

38 + 25 = 63

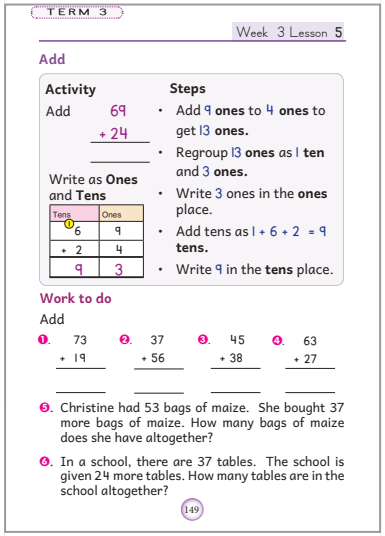
Work to do

Add

1. 26 + 39 = ☐
2. 53 + 37 = ☐
3. 45 + 18 = ☐
4. 76 + 19 = ☐
5. Chalo planted 74 flowers on Monday. On Tuesday he planted 28 more flowers. How many flowers did he plant altogether?
6. In Grade two, there are 56 girls and 37 boys. How many pupils are there in Grade two altogether?

148

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


TERM 3

Week 3 Lesson 5

Add

Activity

Add 69 + 24 = ___

Write as **Ones** and **Tens**

Tens	Ones
6 (1)	9
+ 2	4
9	3

Steps

- Add 9 **ones** to 4 **ones** to get 13 **ones.**
- Regroup 13 **ones** as 1 **ten** and 3 **ones.**
- Write 3 ones in the **ones** place.
- Add tens as 1 + 6 + 2 = 9 **tens.**
- Write 9 in the **tens** place.

Work to do

Add

1. 73 + 19 = ___
2. 37 + 56 = ___
3. 45 + 38 = ___
4. 63 + 27 = ___

5. Christine had 53 bags of maize. She bought 37 more bags of maize. How many bags of maize does she have altogether?
6. In a school, there are 37 tables. The school is given 24 more tables. How many tables are in the school altogether?

149

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**
Learner and Teacher's activities	**Write:** 67 + 14 ___ **Guide:** Learners in pairs or groups to work out 67 + 14

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 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

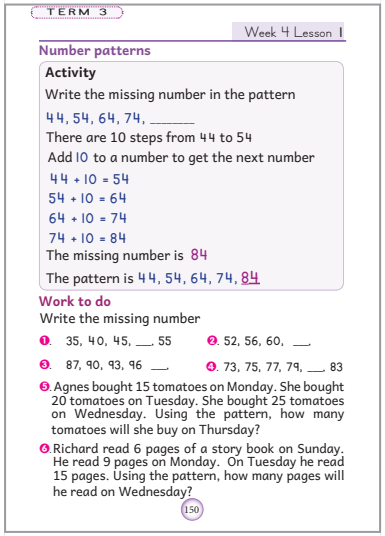
Introduction

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**.
Learner and Teacher's activities	**Write:** The pattern 59, 62, 65, 68, ___, ___ **Guide:** Learners in 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 150
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.



TERM 3

Week 4 Lesson 1

Number patterns

Activity

Write the missing number in the pattern

44, 54, 64, 74, _____

There are 10 steps from 44 to 54

Add 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

Work to do

Write the missing number

1. 35, 40, 45, ___, 55
2. 52, 56, 60, ___
3. 87, 90, 93, 96 ___
4. 73, 75, 77, 79, ___, 83
5. Agnes bought 15 tomatoes on Monday. She bought 20 tomatoes on Tuesday. She bought 25 tomatoes on Wednesday. Using the pattern, how many tomatoes will she buy on Thursday?
6. Richard read 6 pages of a story book on Sunday. He read 9 pages on Monday. On Tuesday he read 15 pages. Using the pattern, how many pages will he read on Wednesday?

150

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 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 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.

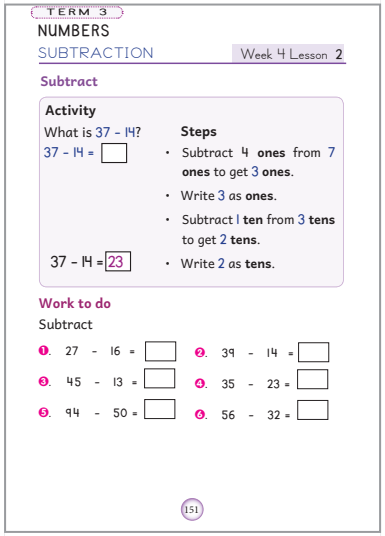
STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to subtract a 2-digit number from a 2-digit number without regrouping horizontally.
SUB-STRAND SUBTRACTION	**Key Inquiry Question:** How do you subtract a 2-digit number from a 2-digit number? **Suggested Learning Resources:** counters, place value apparatus, addition table

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
Learner and Teacher's activities	**Write:** 86 - 25 = ☐ **Guide:** Learners in pairs or groups to work out 86 - 25
Learner Activities	Learners to do activities in pupil's book page 151
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.


TERM 3
NUMBERS
SUBTRACTION Week 4 Lesson 2
Subtract
Activity
What is 37 - 14?
37 - 14 = ☐
Steps
- Subtract 4 ones from 7 ones to get 3 ones.
- Write 3 as ones.
- Subtract 1 ten from 3 tens to get 2 tens.
- Write 2 as tens.

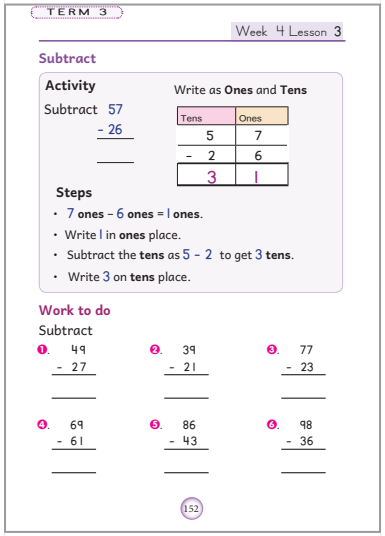
37 - 14 = 23
Work to do
Subtract
1. 27 - 16 = ☐
2. 39 - 14 = ☐
3. 45 - 13 = ☐
4. 35 - 23 = ☐
5. 94 - 50 = ☐
6. 56 - 32 = ☐
151

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

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**
Learner and Teacher's activities	**Write :** 88 - 42 **Guide:** Learners in pairs or groups to work out 88 - 42
Learner Activities	Learners to do activities in pupil's book page 152


TERM 3

Week 4 Lesson 3

Subtract

Activity

Subtract 57
- 26

Write as Ones and Tens

Tens	Ones
5	7
- 2	6
3	1

Steps

- 7 ones – 6 ones = 1 ones.
- Write 1 in ones place.
- Subtract the tens as 5 – 2 to get 3 tens.
- Write 3 on tens place.

Work to do

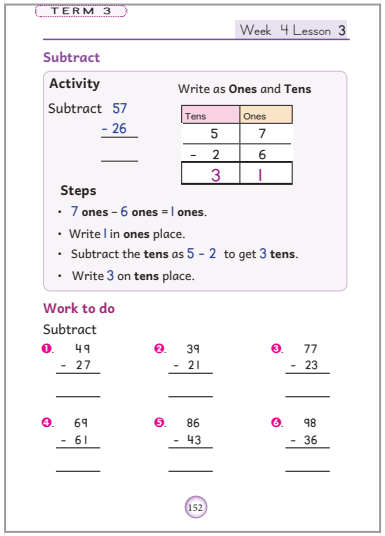
Subtract

1. 49 - 27
2. 39 - 21
3. 77 - 23
4. 69 - 61
5. 86 - 43
6. 98 - 36

152

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.



TERM 3

Week 4 Lesson 3

Subtract

Activity

Subtract 57
- 26

Write as **Ones** and **Tens**

Tens	Ones
5	7
- 2	6
3	1

Steps

- 7 **ones** – 6 **ones** = 1 **ones**.
- Write 1 in **ones** place.
- Subtract the **tens** as 5 - 2 to get 3 **tens**.
- Write 3 on **tens** place.

Work to do

Subtract

1. 49 - 27
2. 39 - 21
3. 77 - 23
4. 69 - 61
5. 86 - 43
6. 98 - 36

152

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

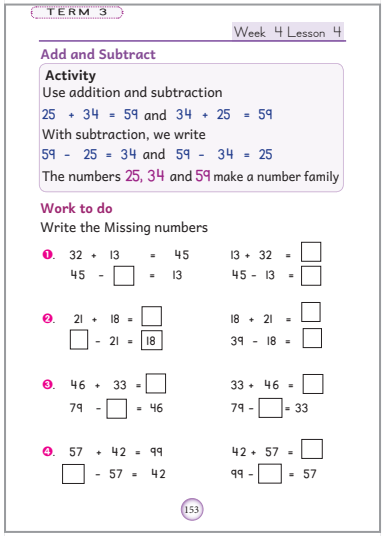
Introduction

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.
Learner and Teacher's activities	**Write :** 61 + 15 = 76 and 15 + 61 = 76 **Guide:** Learners in 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 153
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.


TERM 3

Week 4 Lesson 4

Add and Subtract

Activity

Use addition and subtraction

25 + 34 = 59 and 34 + 25 = 59

With subtraction, we write

59 - 25 = 34 and 59 - 34 = 25

The numbers 25, 34 and 59 make a number family

Work to do

Write the Missing numbers

1. 32 + 13 = 45 ; 45 - ☐ = 13 ; 13 + 32 = ☐ ; 45 - 13 = ☐
2. 21 + 18 = ☐ ; ☐ - 21 = 18 ; 18 + 21 = ☐ ; 39 - 18 = ☐
3. 46 + 33 = ☐ ; 79 - ☐ = 46 ; 33 + 46 = ☐ ; 79 - ☐ = 33
4. 57 + 42 = 99 ; ☐ - 57 = 42 ; 42 + 57 = ☐ ; 99 - ☐ = 57

153

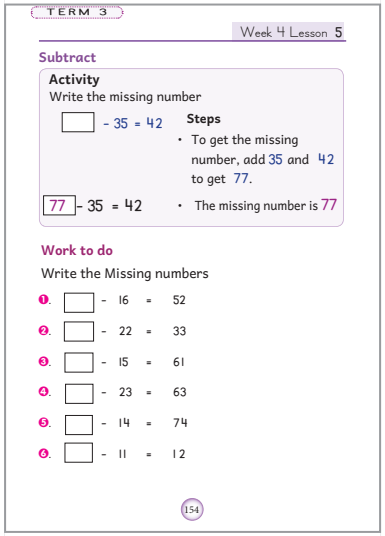
STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to multiply single digit numbers by 5
SUB -STRAND MULTIPLICATION	**Key Inquiry Question:** How do you multiply single digit numbers by 5? **Suggested Learning Resources:** counters

Introduction
Learners to add single digit numbers.

Development

Teacher Activities	**Draw:** ΔΔΔ and ΔΔΔ and ΔΔΔ and ΔΔΔ and ΔΔΔ is ΔΔΔΔΔΔΔΔΔΔΔΔΔΔΔ 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
Learner and Teacher's activities	**Draw:** ΔΔ and ΔΔ and ΔΔ and ΔΔ and ΔΔ is ΔΔΔΔΔΔΔΔΔΔ 2 + 2 + 2 + 2 + 2 = 10 **Guide:** Learners in pairs or groups to multiply single-digit numbers by 5
Learner Activities	Learners to do activities in pupils book page 154
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.


TERM 3

Week 4 Lesson 5

Subtract

Activity

Write the missing number

□ - 35 = 42

Steps

- To get the missing number, add 35 and 42 to get 77.
- The missing number is 77

77 - 35 = 42

Work to do

Write the Missing numbers

1. □ - 16 = 52
2. □ - 22 = 33
3. □ - 15 = 61
4. □ - 23 = 63
5. □ - 14 = 74
6. □ - 11 = 12

154

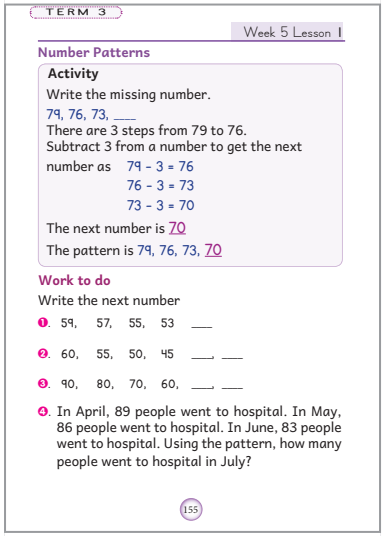
STRAND	**Specific Lesson Learning Outcome**
NUMBERS	By the end of the lesson, the learner should be able to work out missing numbers in patterns involving subtraction from 1 up to 100
SUB-STRAND	**Key Inquiry Question:** How do you work out missing numbers in patterns?
SUBTRACTION	**Suggested Learning Resources:** counters, table of basic addition fact

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**



TERM 3

Week 5 Lesson 1

Number Patterns

Activity

Write the missing number.

79, 76, 73, ___

There are 3 steps from 79 to 76.

Subtract 3 from a number to get the next number as 79 - 3 = 76

76 - 3 = 73

73 - 3 = 70

The next number is 70

The pattern is 79, 76, 73, 70

Work to do

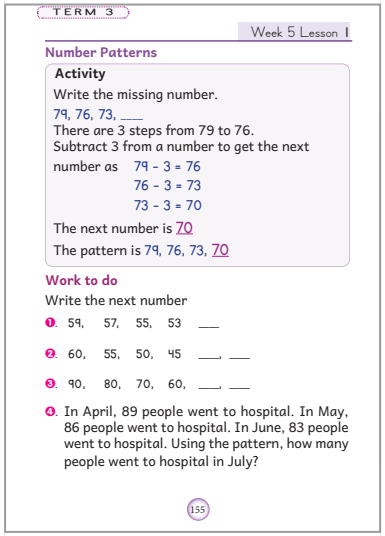
Write the next number

1. 59, 57, 55, 53 ___
2. 60, 55, 50, 45 ___, ___
3. 90, 80, 70, 60, ___, ___
4. In April, 89 people went to hospital. In May, 86 people went to hospital. In June, 83 people went to hospital. Using the pattern, how many people went to hospital in July?

155

Learner and Teacher's activities	**Write:** The pattern 87, 85, 83, ___ **Guide:** Learners in 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 155
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.



TERM 3

Week 5 Lesson 1

Number Patterns

Activity

Write the missing number.

79, 76, 73, ___

There are 3 steps from 79 to 76.

Subtract 3 from a number to get the next number as 79 - 3 = 76

76 - 3 = 73

73 - 3 = 70

The next number is 70

The pattern is 79, 76, 73, 70

Work to do

Write the next number

1. 59, 57, 55, 53 ___
2. 60, 55, 50, 45 ___, ___
3. 90, 80, 70, 60, ___, ___
4. In April, 89 people went to hospital. In May, 86 people went to hospital. In June, 83 people went to hospital. Using the pattern, how many people went to hospital in July?

155

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 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 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 10
SUB -STRAND MULTIPLICATION	**Key Inquiry Question:** How do you multiply single digit numbers by 10? **Suggested Learning Resources:** counters

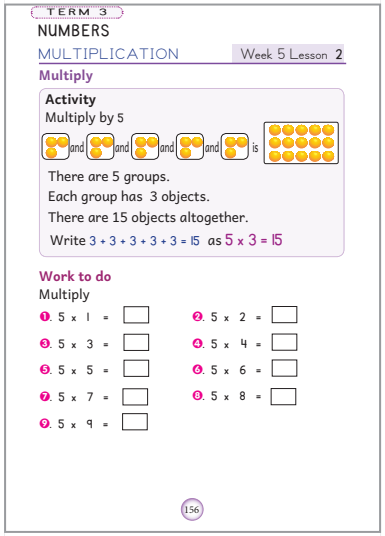
Introduction

Learners to add single digit numbers.

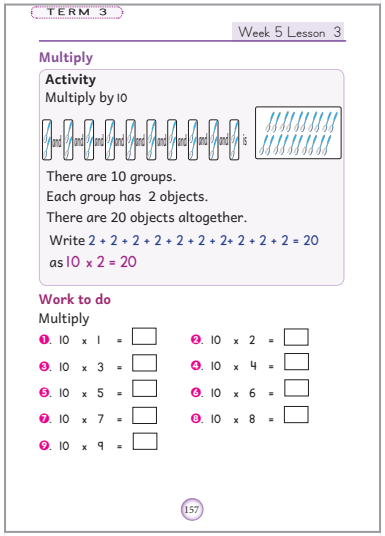
Development

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
Learner and **Teacher's 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 pairs or groups to multiply single digit numbers by 10
Learner Activities	Learners to do activities in pupil's book page 156
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.


TERM 3
NUMBERS
MULTIPLICATION Week 5 Lesson 2
Multiply
Activity
Multiply by 5
and and and and is
There are 5 groups.
Each group has 3 objects.
There are 15 objects altogether.
Write 3 + 3 + 3 + 3 + 3 = 15 as 5 x 3 = 15
Work to do
Multiply
1. 5 x 1 = 2. 5 x 2 =
3. 5 x 3 = 4. 5 x 4 =
5. 5 x 5 = 6. 5 x 6 =
7. 5 x 7 = 8. 5 x 8 =
9. 5 x 9 =
156

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


TERM 3

Week 5 Lesson 3

Multiply

Activity

Multiply by 10

There are 10 groups.
Each group has 2 objects.
There are 20 objects altogether.
Write 2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 = 20
as 10 x 2 = 20

Work to do

Multiply

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

157

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 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 157
Conclusion	Learners to work out word tasks involving division.

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

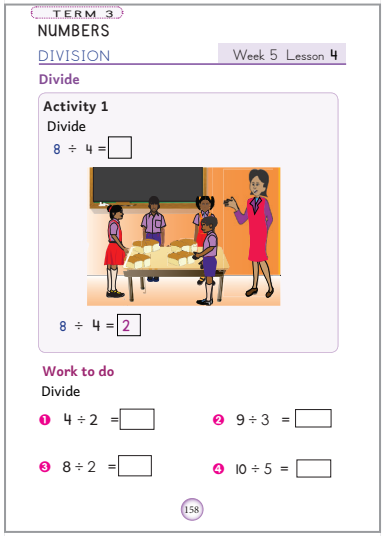
STRAND NUMBERS	**Specific Lesson Learning Outcome** By the end of the lesson the learner should be able to divide numbers up to 10 by 2, 3, 4 and 5 without remainder.
SUB-STRAND DIVISION	**Key Inquiry Question:** How can you divide numbers?
	Suggested Learning Resources: balloons, counters

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

Development

Teacher Activities	**Write:** $8 \div 4 = \square$ and $10 \div 2 = \square$ **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 $8 \div 4 = \boxed{2}$ and $10 \div 2 = \boxed{5}$
Teacher and Learner Activities	**Guide:** Learners in 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 158
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.


TERM 3
NUMBERS
DIVISION
Week 5 Lesson 4
Divide
Activity 1
Divide
8 ÷ 4 = ☐
8 ÷ 4 = 2
Work to do
Divide
1 4 ÷ 2 = ☐
2 9 ÷ 3 = ☐
3 8 ÷ 2 = ☐
4 10 ÷ 5 = ☐
158

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

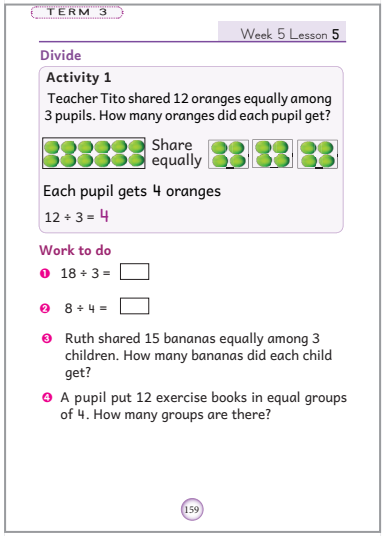
Introduction

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 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 159
Conclusion	Learners to work out questions on division.

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


TERM 3

Week 5 Lesson 5

Divide

Activity 1

Teacher Tito shared 12 oranges equally among 3 pupils. How many oranges did each pupil get?

Share equally

Each pupil gets 4 oranges

12 ÷ 3 = 4

Work to do

1. 18 ÷ 3 = ☐
2. 8 ÷ 4 = ☐
3. Ruth shared 15 bananas equally among 3 children. How many bananas did each child get?
4. A pupil put 12 exercise books in equal groups of 4. How many groups are there?

159

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.

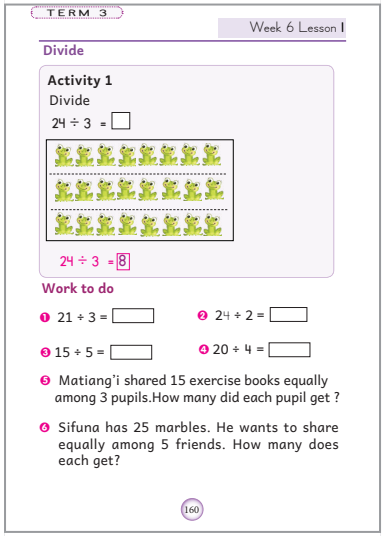
Introduction

Learners to share 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 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.
Learner Activities	Learners to do activities in pupil's book page 160
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.


TERM 3

Week 6 Lesson 1

Divide

Activity 1

Divide

24 ÷ 3 = ☐

24 ÷ 3 = 8

Work to do

1. 21 ÷ 3 = ☐
2. 24 ÷ 2 = ☐
3. 15 ÷ 5 = ☐
4. 20 ÷ 4 = ☐
5. Matiang'i shared 15 exercise books equally among 3 pupils.How many did each pupil get ?
6. Sifuna has 25 marbles. He wants to share equally among 5 friends. How many does each get?

160

MEASUREMENT

General Learning Outcome :

By the end of this strand, the learner should be able to apply measurement skills to find solutions to problems in a variety of context

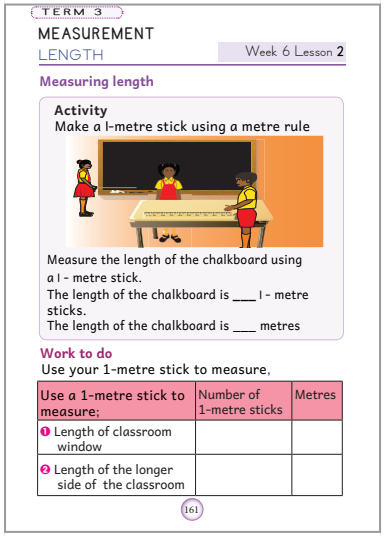
LENGTH

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 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 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 in metres.
SUB-STRAND LENGTH	**Key Inquiry Question:** How do you measure length? **Suggested Learning Resources:** ropes, strings and metre rule.


TERM 3
MEASUREMENT
LENGTH
Week 6 Lesson 2
Measuring length
Activity
Make a l-metre stick using a metre rule
Measure the length of the chalkboard using a l - metre stick.
The length of the chalkboard is ___ l - metre sticks.
The length of the chalkboard is ___ metres
Work to do
Use your 1-metre stick to measure,

Use a 1-metre stick to measure;	Number of 1-metre sticks	Metres
❶ Length of classroom window		
❷ Length of the longer side of the classroom		

161

Introduction

Learners to measure length using 1-metre 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 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 161
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.

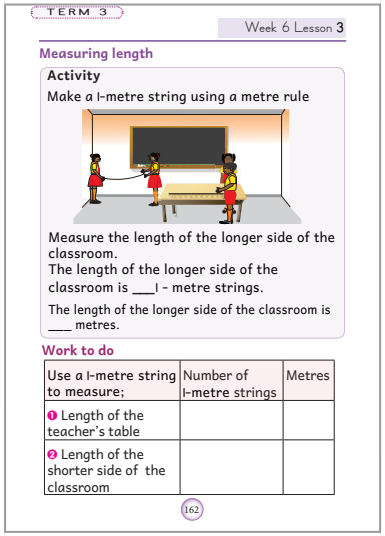
STRAND MEASUREMENT	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to compare mass using 1-kg mass.
SUB-STRAND MASS	**Key Inquiry Question:** How do you compare the mass of two objects? **Suggested Learning Resources:** 1-kg mass, exercise books, textbooks, pieces 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 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 162
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.


TERM 3
Week 6 Lesson 3
Measuring length
Activity
Make a 1-metre string using a metre rule
Measure the length of the longer side of the classroom.
The length of the longer side of the classroom is ___1 - metre strings.
The length of the longer side of the classroom is ___ metres.
Work to do

Use a 1-metre string to measure;	Number of 1-metre strings	Metres
1 Length of the teacher's table		
2 Length of the shorter side of the classroom		

162

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 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 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 in kilogrammes.
SUB-STRAND MASS	**Key Inquiry Question:** How do you measure mass? **Suggested Learning Resources:** 1-kg mass, sand, soil, box of chalk, seeds,

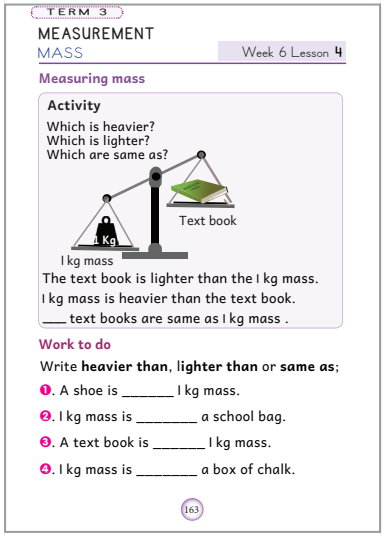
Introduction

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 1-kg of sand.
Teacher and Learner Activities	**Guide:** Learners in pairs or groups to measure 1-kg mass of different items such as sand , soil and seeds using a1-kg mass and a beam balance. Learners to compare their 1-kg mass with those of other groups.
Learner Activities	Learners to do activities in pupil's book page 163
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.


TERM 3

MEASUREMENT

MASS Week 6 Lesson 4

Measuring mass

Activity

Which is heavier?
Which is lighter?
Which are same as?

1 Kg

Text book

1 kg mass

The text book is lighter than the 1 kg mass.
1 kg mass is heavier than the text book.
___ text books are same as 1 kg mass .

Work to do

Write **heavier than**, **lighter than** or **same as**;

1. A shoe is _____ 1 kg mass.
2. 1 kg mass is _____ a school bag.
3. A text book is _____ 1 kg mass.
4. 1 kg mass is _____ a box of chalk.

163

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

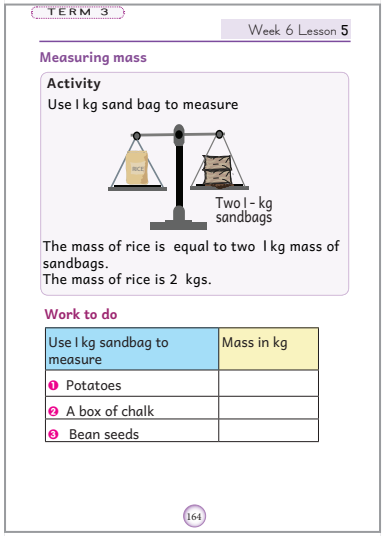
Introduction

Learners to share 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 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 164
Conclusion	Learners to measure capacity of containers in litres.

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


TERM 3

Week 6 Lesson 5

Measuring mass

Activity

Use I kg sand bag to measure

The mass of rice is equal to two I kg mass of sandbags.
The mass of rice is 2 kgs.

Work to do

Use I kg sandbag to measure	Mass in kg
❶ Potatoes	
❷ A box of chalk	
❸ Bean seeds	

164

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 pairs or groups. The teacher should link the various components in the curriculum designs.

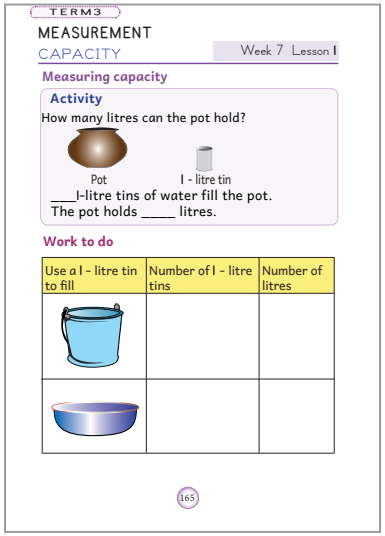
These components include but not limited to discussing issues like safety of materials being used (PCIs), values that can be nurtured such as unity, respect, patriotism and responsibility among others. The teacher should involve learners in non-formal activities like measuring capacity of containers 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:** 1-litre tin, basin, bucket, Jerrycan

Introduction
Learners to share 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 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 165
Conclusion	Learners to measure capacity of containers in litres.

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

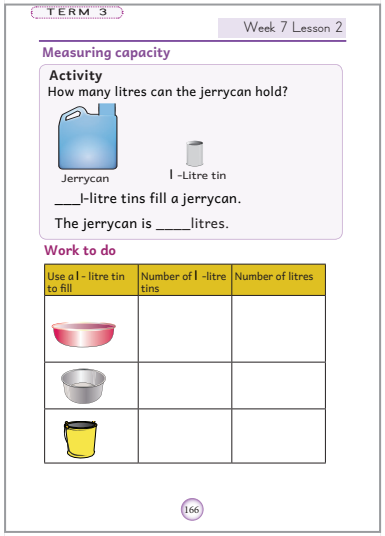

TERM 3
MEASUREMENT
CAPACITY
Week 7 Lesson 1
Measuring capacity
Activity
How many litres can the pot hold?
Pot
1 - litre tin
___l-litre tins of water fill the pot.
The pot holds _____ litres.
Work to do
Use a 1 - litre tin to fill
Number of 1 - litre tins
Number of litres
165

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

Introduction:
Learners to share 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 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 166
Conclusion	Learners to tell time by the hour on a digital clock.

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


TERM 3
Week 7 Lesson 2
Measuring capacity
Activity
How many litres can the jerrycan hold?
Jerrycan
1 -Litre tin
___l-litre tins fill a jerrycan.
The jerrycan is _____litres.
Work to do
Use a l - litre tin to fill
Number of l -litre tins
Number of litres
166

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.

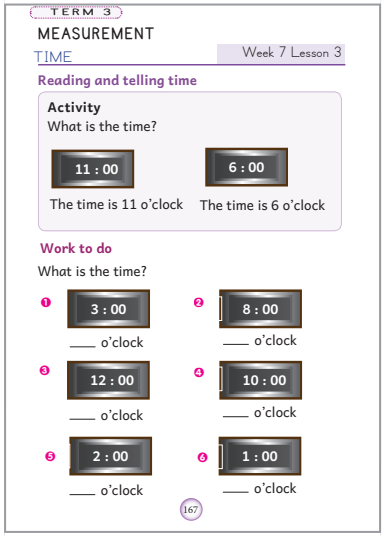
The development of core competencies would be enhanced as learners work in pairs or groups. The teacher should link the various components in the curriculum designs. These components include but not limited to discussing issues like safety of materials being used (PCIs), values that can be nurtured such as unity, respect, patriotism and responsibility among others. The teacher should 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, 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

Introduction:
Learners to share 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 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 167
Conclusion	Learners to tell and write time by the hour on an analogue clock.

Extended Learning: Learners to tell and write time by the hour using analogue and digital clocks in daily life.

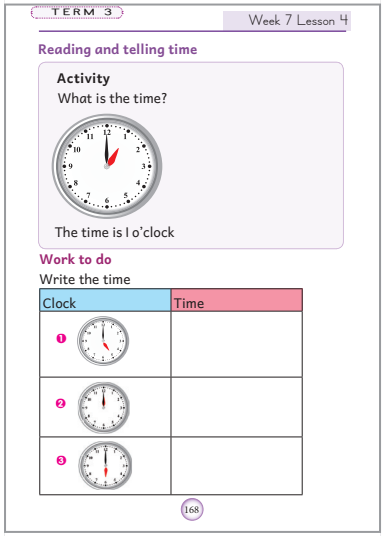

TERM 3
MEASUREMENT
TIME
Week 7 Lesson 3
Reading and telling time
Activity
What is the time?
11 : 00
The time is 11 o'clock
6 : 00
The time is 6 o'clock
Work to do
What is the time?
1 3 : 00 ___ o'clock
2 8 : 00 ___ o'clock
3 12 : 00 ___ o'clock
4 10 : 00 ___ o'clock
5 2 : 00 ___ o'clock
6 1 : 00 ___ o'clock
167

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:** Analogue, digital clocks

Introduction:
Learners to share 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 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 168
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


TERM 3
Week 7 Lesson 4
Reading and telling time
Activity
What is the time?
The time is I o'clock
Work to do
Write the time
Clock
Time
168

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.

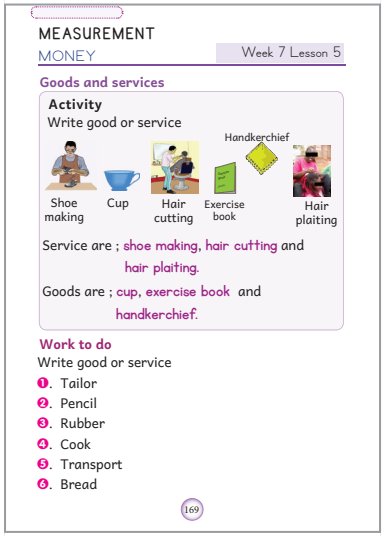
The development of core competencies would be enhanced as learners work in pairs or groups. The teacher should link the various components in the curriculum designs. These components include but not limited to discussing issues like safety of materials being used (PCIs), values that can be nurtured such as unity, 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:** What can you do with money? **Suggested Learning Resources:** pictures, newspaper cut out of goods and services.

Introduction
Learners to share their experiences on spending money.
Development

Teacher Activities	**Demonstrate**: Show learners pictures and newspaper cut-outs on goods and services and explain the price attached to each. **Write :** The items and their corresponding prices.
Teacher and Learner Activities	**Guide**: learners in pairs or groups to role play use of money in shopping activities and paying for services.
Learner Activities	Learners to do activities in pupil's book page 169
Conclusion	Learners to discuss about the goods they buy and servces they pay for.

Extended Learning: Learners to participate in buying and selling activities at home and in the community.

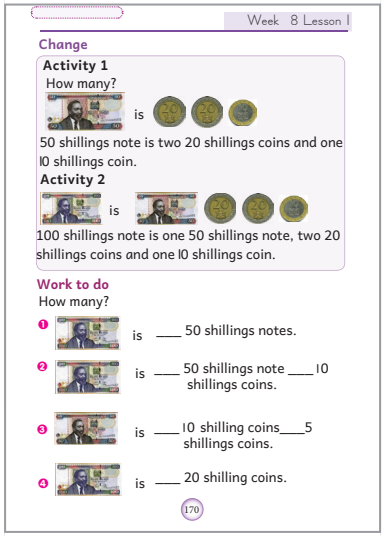

MEASUREMENT
MONEY
Week 7 Lesson 5
Goods and services
Activity
Write good or service
Handkerchief
Shoe making
Cup
Hair cutting
Exercise book
Hair plaiting
Service are ; shoe making, hair cutting and hair plaiting.
Goods are ; cup, exercise book and handkerchief.
Work to do
Write good or service
1. Tailor
2. Pencil
3. Rubber
4. Cook
5. Transport
6. Bread
169

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

Introduction
Learners to share 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 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 170
Conclusion	Learners to ask and answer questions on giving and receiving change.

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


Week 8 Lesson 1

Change

Activity 1

How many?

is

50 shillings note is two 20 shillings coins and one 10 shillings coin.

Activity 2

is

100 shillings note is one 50 shillings note, two 20 shillings coins and one 10 shillings coin.

Work to do

How many?

1. is ___ 50 shillings notes.
2. is ___ 50 shillings note ___ 10 shillings coins.
3. is ___ 10 shilling coins___5 shillings coins.
4. is ___ 20 shilling coins.

170

GEOMETRY

General Learning Outcome :

By the end of this strand, 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 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 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

Introduction
Learners to draw 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 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 171
Conclusion	Learners to display and discuss curved lines made during the lesson.

Extended Learning: Learners to make curved lines in school, at home and in the community.

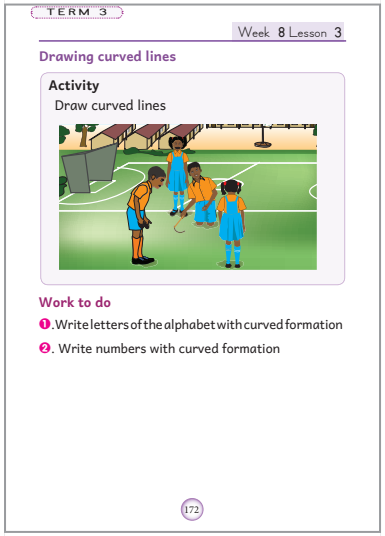

TERM 3
GEOMETRY
LINES
Week 8 Lesson 2
Curved lines
Activity
Make curved lines
Work to do
Use plasticine or clay to make curved lines
171

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, sticks, bottles ,crayons, chalk and charcoal.

Introduction
Learners to draw curved lines in the air.
Development

Teacher Activities	**Demonstrate:** Show learners how to draw curved lines using pieces of stick, crayons or chalk or charcoal.
Teacher and Learner Activities	**Guide**: Learners in 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 172
Conclusion	Learners to draw curved lines in their exercise books.

Extended Learning: Learners to practise drawing curved lines in school, at home and in the community.


TERM 3
Week 8 Lesson 3
Drawing curved lines
Activity
Draw curved lines
Work to do
1. Write letters of the alphabet with curved formation
2. Write numbers with curved formation
172

SHAPES

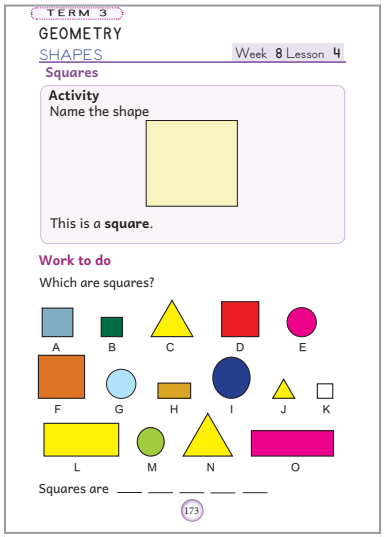
Background Information

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 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 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 squares.
SUB-STRAND SHAPES	**Key Inquiry Question:** How do squares look like? **Suggested Learning Resources:** paper cut-outs of rectangles, triangles, circles, ovals and squares


TERM 3
GEOMETRY
SHAPES
Week 8 Lesson 4
Squares
Activity
Name the shape
This is a square.
Work to do
Which are squares?
A B C D E
F G H I J K
L M N O
Squares are ___ ___ ___ ___ ___
173

Introduction

Learners to identify ovals in the classroom.

Development

Teacher Activities	**Demonstrate:** Using paper cut-outs, show learners how a square looks like.
Teacher and Learner Activities	**Guide**: Learners in pairs or groups to identify squares from among other shapes.
Learner Activities	Learners to do activities in pupil's book page 173
Conclusion	Learners to pick and stick on the board paper cut outs with square shapes from a box with assorted shapes.

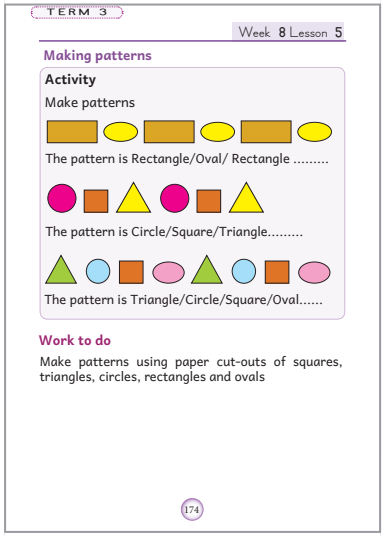
Extended Learning: Learners to sort, group and name triangular, circular, rectangular, oval and square objects in school and at home.

STRAND GEOMETRY	**Specific Lesson Learning Outcome** By the end of the lesson, the learner should be able to make patterns using circles,triangles, rectangles, 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.

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 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 174
Conclusion	Learners to display the patterns made in the learners' corner.

Extended Learning: Learners to make patterns and stick them on walls in class and at their homes.


TERM 3
Week 8 Lesson 5
Making patterns
Activity
Make patterns
The pattern is Rectangle/Oval/ Rectangle .....
The pattern is Circle/Square/Triangle.....
The pattern is Triangle/Circle/Square/Oval.....
Work to do
Make patterns using paper cut-outs of squares, triangles, circles, rectangles and ovals
174

ANSWERS TO WORK TO DO TERM 3

Week 1 Lesson 1

The teacher to listen as learners read the numbers.

Week 1 Lesson 2

b. 73 c. 81 d. 100

Week 1 Lesson 3

1. Teacher to listen as learners count forward by 10 from 11 to 99.
2. Teacher to listen as learners count backward by 10 from 99 to 11.

Week 1 Lesson 4

1. **O** Hundreds **8** Tens **1** Ones
2. **O** Hundreds **9** Tens **7** Ones
3. **1** Hundreds **0** Tens **0** Ones

Week 1 Lesson 5

The teacher to listen as learners read and write the numbers.

Week 2 Lesson 1

1. 16 2. Seventeen 3. Eighteen 4. Nineteen 5. 2 6. Fifteen

Week 2 Lesson 2

1. 58 2. 77 3. 92 4. 81 5. 67 6. 40

Week 2 Lesson 3

1. 80 2. 60 3. 50 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

A half 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. 102 6. 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. 12

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. 32; 45; 32 2. 39; 39; 18 29; 29 3. 79; 33; 79; 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

ANSWERS TO I CAN DO 3

1. Teacher to listen as learners read
2. 16
3. Teacher to listen as learners count forward by 10 from 11 to 99
4. Teacher to listen as learners count backward by 10 from 100 to 10
5. 0 hundreds 8 tens 4 ones
6. 15
   Learner to draw 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
    6 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. Tin
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. A rectangle

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 Questions ……....

Core competencies to 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 TEACHERS' 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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