



**MATHEMATICS
ACTIVITIES**

**TEACHERS GUIDE
GRADE THREE**

**FOR LEARNERS WITH
BLINDNESS**



MINISTRY OF EDUCATION

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First Published 2017

ISBN: 978-9966-31-920-3



IMPORTANT NOTES FOR THE TEACHER

Mathematics activities is a learning area that deals with numbers and symbols whose relationship is expressed in rules. Mathematics activity enables the learner to acquire competencies, values and positive attitudes which enable them to develop logical thinking, ability to apply the knowledge acquired, analyze situations and make rational decisions. The competencies that learners acquire enable them to continue with further education, lead a productive life and contribute to National economic development. The learning area is organized such that the content taught in one level becomes the prerequisite in the next level. The content therefore becomes more demanding as we move from one level to another.

This guide was developed to help 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 Mathematics activities book 3
- ii. Prepare detailed schemes of work and lesson plans
- iii. Identify, select and use the most cost-effective learning resources
- iv. Choose the most effective approach (methods) and techniques in teaching mathematics activities book 3
- v. Plan for the available time for more effective teaching
- vi. Organize the teaching/learning activities in class
- vii. Carry out effective assessment
- viii. Integrate the concepts of reformed curriculum in Grade 3 Mathematical activities

HOW TO USE THIS GUIDE

This Guide contains the following;

a) STRANDS

This is content areas to be covered. There are three (3) strands, namely;

- i. Numbers
- ii. Measurement

iii. Geometry

b) A SUB STRAND

This is the content covered in one part of the strand

c) SUGGESTED TIME

This is the suggested number of lessons per sub strand

d) LEARNING OUTCOMES

This is what is expected to be achieved at the end of level, subject, or each lesson. The following are different levels of learning outcomes;

i. Learning Outcomes for Early Years Education

The level learning outcomes for early year's education are derived from the National goals of education. They are the outcomes for all learning activities done in early year's education level. These are given as follows;

By the end of early years' education, the learner should be able to:

- Demonstrate basic literacy and numeracy skills for learning.
- Communicate appropriately using verbal and/or non-verbal modes in a variety of contexts.
- Demonstrate appropriate etiquette in social relationships.
- Apply creativity and critical thinking skills in problem solving.
- Explore the immediate environment for learning and enjoyment.
- Practice hygiene, nutrition, sanitation, safety skills to promote health and wellbeing.
- Demonstrate the acquisition of emotional, physical, spiritual, aesthetic and moral development for balanced living.
- Demonstrate appreciation of the country's rich and diverse cultural heritage for harmonious co-existence.
- Apply digital literacy skills for learning and enjoyment.

ii. Learning Outcomes for Mathematics activities:

It is from the Early Year's education level learning outcomes that the General learning outcomes for Mathematics activities are derived. They are as given below;



By the end of the early year's mathematics activities, the learner should be able to;

- Demonstrate mastery of Number concepts by working out problems in day to day life.
- Apply measurement skills to find solutions to problems in a variety of contexts
- Describe properties of Geometrics shapes and spatial relationships in real life experiences

iii. Specific Learning Outcomes

The specific learning outcomes are then derived from the general learning outcomes from which learning experiences are formulated. (NB: The specific learning outcomes are given under each strand (See the curriculum designs))

e) SUGGESTED TEACHING/LEARNING RESOURCES

These are the suggested resources or materials to be used during a lesson for teaching and 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 provide the materials that learners are familiar with.

f) SUGGESTED LEARNING EXPERIENCES

These are the activities to be carried out by the learners in order to achieve the learning outcomes. Teachers are encouraged to expose the learners to practical experiences which are needed in learning mathematical concepts such as capacity, weight, length and time

G) CONCEPT IN THE REFORMED CURRICULUM

Kenya is currently undergoing curriculum change across all levels of education and all learning areas including Mathematics. The following are some of the concepts in the reformed curriculum which have to be integrated in Mathematics:

h) CORE COMPETENCES

A competency is the ability to apply or use a set of related knowledge, skills, values, attitudes and abilities required to successfully perform “critical work functions” or tasks in a defined setting. Competences often serve as the basis for skill standards 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 across all levels of basic education, namely:

1. Communication and Collaboration
2. Critical Thinking and Problem Solving
3. Creativity and Imagination
4. Citizenship
5. Digital Literacy
6. Learning to Learn
7. Self-efficacy

Communication and collaboration

Communication is the act of transferring information from one place to another, whether verbally, visually and non-verbally. Collaboration is the process of two or more people or organizations working together to realize shared goals. Collaboration may require leadership, socialized within a decentralized or egalitarian group teams that work collaboratively in relation to gaining greater resources, recognition and motivation.

Self-efficacy

Self-efficacy is the person’s belief about his or her capabilities to perform tasks or assignments that can change and transform his or her life. It determines how the person feels, thinks, behaves and motivates self positively. Self-efficacy has the potential to determine four major processes namely cognitive, motivational, affective and selection processes.

Self-efficacy will enable learners to develop and nurture intra-personal



skills and values such as self-awareness, self-esteem, confidence and personal integrity.

Critical thinking and problem solving

There are three types of thinking: reasoning, making judgments, and problem solving. When learners are empowered with critical thinking, they avoid being subjective, and use logic and evidence to arrive at conclusions. Critical thinking also facilitates exploring new ways of doing things and learner autonomy.

Critical thinking is important for lifelong learning. It helps learners to have an open mind and be ready to listen and appreciate information and opinions that may sometimes conflict with their earlier held beliefs and positions. Critical thinking and problem solving are useful for learners of all ages and in all learning areas, subjects and disciplines offered in the basic education curriculum. For example, in the Sciences learners need to think critically about observations and patterns to develop ideas on how to solve problems. The competences are also important for solving problems in their lives and community, and ultimately achieve their potential which is the mission for basic education curriculum.

Imagination and creativity

Imagination and Creativity refers to the ability to form new images and sensations in the mind, and to turn them into reality. It is the ability to imagine things that are not real, to form pictures in the mind, of things that one has not seen or experienced, and turning those pictures into real things. Imagination and Creativity on the other hand, is characterized by ability to perceive the world in new ways, to find hidden patterns, to make connections between seemingly unrelated phenomena, and to generate solutions.

In an educational set up, imagination and creativity refers to the ability of learners and their teachers to form images and ideas in their minds, and turn them into real, visible creations. Learners who are imaginative and creative are able to make life interesting for themselves and others

around them. They are able to use the knowledge, skills and values acquired in the learning process to create new ideas which result in products that add value to their lives and to those of others around them.

Citizenship

Citizenship is the state of being vested with the rights, privileges, and duties of a citizen. It creates a sense of belonging and attachment to one's nation. A sense of citizenship helps to equip young people to deal with situations of conflict and controversy knowledgeably and tolerantly. They are able to understand the consequences of their actions, and those of the adults around them.

Digital literacy

Digital literacy is the knowledge, skills and behavior in a broad use of digital content and devices. Such devices include mobile phones, smartphones, iPhone, tablets, laptops and desktops among others. All these are within the category of network devices. Digital literacy therefore focuses mainly on networking devices and should not be confused with computer literacy skills. However, traditional forms of literacy and computer literacy are enhancers in the acquisition of digital literacy skills. Digital literacy includes the ability to exploit the opportunities offered by ICT, and use them critically and innovatively in every day work. Digital literacy also include the ability to use information and communication technologies to find, evaluate, create and communicate information, requiring both cognitive and technical skills (Norwegian Ministry of modernisation, 2009)

Learning to learn

Learning to learn is the ability to pursue and persist in learning, to organize one's own learning, by effective management of time and information, both individually and in groups. This competence includes awareness of one's learning process and needs, identifying available



opportunities, and the ability to overcome obstacles in order to learn successfully. This competence means gaining, processing and assimilating new knowledge and skill as well as seeking and making use of guidance. Learning to learn helps learners to build on prior learning and life experiences in order to use and apply knowledge and skills in a variety of contexts. There are four pillars of learning: Learning to know, learning to do, learning to be and learning to live together.

ii) Values-based Education (VbE)

Values are standards that guide people on how to respond or behave in each situation. They influence how someone feels, acts and makes choices in life.

The responsibility for **nurturing values** rests with parents, school and the community. Everybody in the school has a role to play in helping the learner to nurture values. This approach is referred to as 'The whole school approach to value based education'.

The overall goal of values-based education is 'To nurture values in learners to become empowered, engaged and ethical citizens for positive and holistic transformation of society'. The teacher therefore has an important role to play in nurturing values through teaching.

Core Values

According to the competency based Curriculum there are eight core values to be nurtured in the learner namely social justice love, responsibility, respect, unity, peace, patriotism and integrity. The teacher is expected to identify value(s) to be nurtured in the learning experience in every strand. He/she is expected to constantly guide and engage the parents to reinforce the values learners have learnt in school or at their home. Learners are expected to emulate exemplary behaviors and values from teachers, family members and the community at large hence the need for adults to exhibit good behaviour. Learners spend most of their formative years in school, which presents opportunities for the teacher to mold and reinforce values upon which the learner's character is formed.

iii) Pertinent and Contemporary Issues (PCIs)

Holistic, meaningful and learner centred education does not only focus on the subject content but also on the competencies the learner requires to effectively address the issues and challenges of everyday life thereby leading a fulfilled life and becoming a productive member of the society. Issues that have been identified as salient and therefore mainstreamed in the designs are referred to as Pertinent and contemporary issues (PCIs). Mainstreaming is the process of identifying suitable opportunity in the learning area or subject where PCI can be incorporated appropriately and taught alongside the subject matter. PCIs should be included in the schemes of work and in the lesson plans. PCIs have been classified into six broad areas comprising of several related salient issues as follows:

- **Citizenship.** Peace Education, Integrity, ethnic and racial relations, social cohesion, patriotism, good governance, child's rights, child care and protection,
- **Health Education,** HIV and AIDS Education, Alcohol and drug abuse prevention, Life style diseases, personal hygiene, Common Communicable and non-communicable diseases and chronic, diseases
- **Life Skills and Values Education:** Life Skills Education, Core Values and Human sexuality. See the appendices on Life Skills Education and Core values
- **Education for Sustainable Development (ESD):** Environmental Education, Disaster Risk Reduction, Safety and security Education, Financial Literacy, Poverty eradication, Countering terrorism, extreme violence and radicalization, Gender issues in education and Animal Welfare Education
- **Learner Support Programmes (Non Formal Education programmes):** Guidance services, Career guidance, counselling services, peer education, mentorship, chaplaincy services, clubs and societies, Sports and games.



- **Parental Empowerment and engagement and, Community Service learning:**

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 learning experiences.

The teacher is expected to constantly guide and engage the parents to reinforce what the learner has learnt in school at home. The school community and the larger community should provide conducive environment for learners to apply competencies they have learnt on PCIs to address issues at home and in the society. Please refer to the sample lesson plan given in the handbook/Teachers guide.

PCIs are supposed to not only be integrated in the lesson but in other programmes and activities in the school, home and in the community. Acquisition of knowledge, values and skills in various PCIs will enable the learner to translate what they have learnt to real life situation both in and outside school.

iv) Differentiated Learning

Every learner learns differently. Technically, individual learner has preferential way in which they absorb, processes, comprehends and retain information. It is therefore important for educators 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.

Differentiated Learning is effective instruction that is responsive to learners' readiness, interests and learning preferences. It enables learners to build new learning through connections to existing knowledge and preferred ways of learning. Readiness is the learner's starting point for learning, relative to the concept being studied while his or her interests enhances the relevance of learning by linking new information to his or her experience and enthusiasm. The learning preferences refer to

different ways in which learners prefer to acquire, process and work with information.

Learning preferences are influenced by gender, culture, the classroom environment, learning styles and multiple intelligences. Teachers are required to use a range of instructional and assessment strategies to meet the needs of different learners. Learners are assessed before, during and after learning. Assessment informs next steps for both teacher and learner. All differentiated instruction activities are equally engaging and respectful and take approximately the same amount of time.

Differentiated learning allows for flexibility in creating and altering instructional plans in response to learners needs. It involves expanding instructional routines and skills where learning experiences are introduced to learners in different ways of learning. Differentiated learning provides effective teaching that involves providing different learners with different avenues to learning.

v) Use of Information Communication Technology (ICT)

ICT entails the use of technology in information delivery. Consequently ICT in education entails teaching and learning using technology devices and material.

The resources used in ICT are mainly digital, electronic and Portable Document Format (PDF) files. The bulk of ICT education materials in KICD are radio, television, e-learning programmes and PDFs.

- **Radio programmes** - involve audio recordings disseminated through radio/electronic devices
- **Television (Video) programmes** - audio-visual content that is mainly video based and disseminated through television and other electronic devices.
- **E – learning (computer based) programmes** - electronic learning materials disseminated through computer /smart T.Vs technology.
- **PDFs** - electronically converted images from print material.

The education ICT content is stored in various electronic formats



including offline modes such as CDs, DVDs, Flash disks, Memory cards and online formats.

The KICD electronic content can be accessed from the following Digital Literacy Programme devices in the schools:

- Teacher Digital Device (TDD)
- Learner Digital Device (LDD)
- Digital Content Server & Wireless Router (DCSWR)
- External Hard Disk

When chosen and used appropriately, the electronic material will enable the learner use modern technologies thus making ICT technology a delivery tool for all learning areas. This added advantage to teaching and learning enhances learning by:-

- Supplementing classroom instruction
- Stimulating and motivating the learner
- Enhancing concepts acquisition
- Arousing learners interest and promoting active participation during the lesson
- Saving time used to explain concepts
- Enhancing skills development
- Enabling the teacher to cater for individual differences
- Reaching learners by multisensory presentation
- Research findings indicate that retention of knowledge and skills is highly accomplished through the three sensory domains of audio, audio-visual and tactile. The teachers are therefore encouraged to use quality Educational Resources. The endeavor will enable teachers to access resources that will address the needs of the learner in order to make learning interesting and more meaningful. When choosing the appropriate resource, the teacher should take note of the following:-
- Relevance to the content being taught
- Accuracy
- Stimulation of learner's imagination and enhancement of

concepts acquisition

- Appropriateness to the level of the learner
- Capability of capturing the learner's interest for active participation
- Durability and safety for learners use
- Application of new knowledge and skills
- Conformity to set standards
- Awareness creation to teachers on the latest pedagogical practices
- Interactivity and sustainability

The use of technology to teach and learn is a major educational reform. It can be used as a tool for learning. It is a valuable resource which can be used:

- ✓ As a method for teaching
- ✓ For assessment
- ✓ To introduce the lesson and
- ✓ To enhance what was learnt

Information and Communication Technology play an increasingly important role in the way we communicate, learn and live. The challenge is to effectively harness these technologies in a way that serves the interests of learners in their learning environment.

ICT should contribute to; access to education, equity in education and the delivery of quality learning and teaching. It is not meant to replace the teacher. Instead, consideration must be given to the subject matter, the learning outcomes, the characteristics of the learners, and the learning context in order to arrive at the optimum mix of instructional and delivery methods. Moreover, different technologies are typically used in combination rather than as the sole delivery mechanism.

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**. These are curriculum document which usually contain specific information about the course such as, details on the expected learning outcomes, what is to be learned, how it can be learnt, and suggestions for assessment, resources and time allocation. It is therefore a vital document that the teacher must use in the learning process. The teacher should use the curriculum designs while preparing schemes of work and lesson plans.

Schemes of Work

Schemes of Work are developed by the implementing teacher to organise how the curriculum will be implemented in a given year. It is developed from the curriculum designs. It helps the teacher distribute what is to be covered within the available time and how it shall be done. It therefore shows how the planned curriculum shall be distributed or organised within the time allocated. The teacher who is expected to teach the activity area should develop the scheme of work as he/she can easily contextualise what is feasible for implementation in his/her context. He or she is able to tell what resources are available for him or her to use in the learning process. A sample Scheme of Work (SoW) is appended at the back of this book.

Lesson plans

Lesson plans are developed from the schemes of work. They describe the actual learning experiences that the teacher will facilitate during the lesson. It provides clear instructions on how the class will be organised, the resources that will be used, and the activities that will take place within the time allocated. It also shows how values, PCIs and competencies shall be mainstreamed in the lesson. Lesson plans are usually propositions made by the teacher on how the lesson shall run, however, the way in which the lesson may run could change spontaneously during the lesson. Lesson plans should be developed by the teacher who will facilitate the lesson as they are better placed to know the type of learners they have, the resources available to them and the context in which the learning shall take place. A sample lesson plan for a competency based curriculum is provided in the appendix of this book.

Record of work

After facilitating a lesson the teacher should indicate what was covered in the lesson and how well the learners achieved the learning outcomes envisaged. This document is called the **record of work**. The record of work is important as it indicates what the learners have achieved within a given time. It also enables the school management to track what is happening in the classes in their schools. In case the teacher is absent or leaves the school, the record of work enables the replacing teacher to pick up from where they left and effectively continue implementing the curriculum. Record of work should be signed by the teachers and also regularly signed by the school management.

Learners progress records

In order to track learner's performance the teacher should also have an **Learners progress record**. The record will track the achievement of learning outcomes and competencies acquired by the learners. It will guide the teacher on which learner needs special attention to acquire the skills and competencies stated in the curriculum designs. The information will also be used when reporting learner's progress to their parents.

Individualised Education Programme

Individualised Education Programme (IEP) is a written plan describing what will be done to a learner with special Needs in order to achieve the stated learning outcomes. An IEP should be prepared only for an individual learner with challenges or difficulties in a specific area of focus eg addition by regrouping.

i) Suggested assessment methods

Assessment should be a continuous process and should be part of lesson planning. The teachers guide suggests where an assessment is most useful so that it serve the learner's individual needs. Formative assessment is very important in Mathematical activities 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 problems 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. Moreover, teachers need to adopt the report card template given at the end of this teachers guide, to prepare progress reports of the learners to their parents and guardians.

HOW TO SUPPORT LEARNERS TO IMPROVE THEIR MATHEMATICAL ABILITIES

Teachers have a duty to help learners develop a culture of reading Mathematics by themselves. However they cannot develop this culture unless they are supported by their teachers. The teacher can improve the learners' learning by guiding them early in their schooling life. One of the ways is to guide the learners to come up with their learning timetable which spans the whole week with one day of rest. It is recommended that learners attend mathematics classes very regularly and if possible without fail because mathematics has very strong inter-topic linkages, hence the more they attend classes, the higher the performance. Some other areas that teachers need to address as they help learners to develop mathematical habits include;

- Let learners know how to get an overview of a strand before doing it. Let them develop a keen interest in the strand review and its learning outcomes. That way, they have an idea of what the strand is about.
- Let the learners know how to question the heading of a strand by restating it as a question. This way, they conceptualize what

they are expected to learn.

- The learners then workout the calculations in the strand as they try to answer the question they formulated. This prepares them for assessment later.
- The learner should then recite the formulae and other main points of the strands. They write the main points and formulae given in their own words to enhance understanding
- The learner then reviews the entire mathematics activities book by asking questions and reviewing main points to ensure that they answer all the questions formulated.

The teacher should support the learner all through by creating a conducive environment and encouraging the learner as he/she develops mathematics culture. This involves allowing them the independence to chat their own learning and to accept and deal with the challenges of acquiring mathematical knowledge and skills.



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INTRODUCTION

This Teacher's guide has been designed to assist the teacher in facilitating learning of the various concepts in the mathematics activities curriculum design for Grade 3. 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. The teacher is at liberty to use any method including the direct instructional method (DIM) that they used earlier in grade 1 and 2. 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.

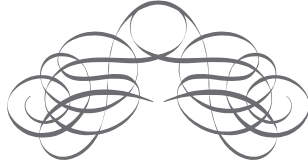
This teacher's guide has been developed using the spiral approach. All the 14 sub strands in the curriculum design will be taught in each of the 3 school terms. The learners will therefore meet the different concepts each term.

The teachers have been guided on what to teach in each lesson throughout the year. The content has been divided into three term 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. Finally the guide gives guidance on how the concepts 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 mathematical activities at this level.





TERM ONE



General Learning Outcome

Learners should demonstrate mastery of number concepts by working out problems in day to day life.

NUMBER CONCEPT

Time - 4 lessons

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 count numbers in symbols up to 100. In this sub strand, learners will be expected to apply previous knowledge acquired in identifying positions from 1 – 20. Learners will all be expected to play digital games using their LDD or any other IT devices. For learners with blindness the digital device could have speech output and embossed keyboard.

Learners are expected to work in pairs or groups in order to learn from each other which would lead to the development of core competencies. Learners with blindness could be work with sighted guides. The teacher should bring out 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 for example unity, respect, patriotism, responsibility among others. The teacher should also involve learners in non-formal activities including counting different types of items in their classroom. The teacher may also discuss how the number concept is linked to language, 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.

Week 1 Lesson 1

NUMBER CONCEPT

Ordinal Number Names (first to fifth)

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to use ordinal number names to identify position from first to fifth.



Learning Resources

- Flash cards
- Braille cards/Tactile cards
- Felt pens
- Adapted field
- Pairs of scissors

Key Inquiry Question

How do you identify positions?

Learning Activities

1. Guide learners to form groups of 6, and then ask 5 of them to engage in a running competition. Discuss safety precautions as they compete. Learners with blindness could be assigned sighted guides when taking part in running competition.
2. Learners to form a queue as they complete the race at the finishing line. Learner number 6 to assign ordinal numbers to the competitors as first, second, third, fourth and fifth. Learners with blindness could be guided to touch the shoulder of the one in front as learner number six assign ordinal numbers to the competitors as first second, third, fourth and fifth.
3. Discuss the assigning of positions with learners with reference to activity two (2)
4. Using the example in the corresponding braille page, guide learners to use ordinal number names to identify positions.
5. Learners to play digital games involving position. Learners with blindness could be provided with digital devices with embossed keyboard and voice output
6. NB: Activity one in the pupils books should be done by directly involving learners with blindness using a physical land markin

the school Assign the participating learners the names as per the pupils books.

Work to do

Learners to work out questions from the learner's book in the corresponding Braille page.

Week 1 Lesson 2

NUMBER CONCEPT

Ordinal Number Symbols (1st – 5th)

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to use ordinal number symbols to identify position from 1st to 5th.

Learning Resources

- Braille cards
- Books
- Water bottle

Key Inquiry Question

How do you identify positions?

Learning Activities

1. Guide learners in pairs or in groups to arrange 5 mathematics activities text books on their desks from a point of reference.
2. Learners to place braille number cards with ordinal number symbols 1st, 2nd, 3rd, 4th and 5th on the books from the point of reference.
3. Discuss the assigning of positions with learners with reference to the activity . Learners with blindness could be guided to role play buying items from the classroom shop. One learner could act as the shopkeeper as 5 other learners line up buy items.



- Using the example in the learner's book page 4 , guide learners to use ordinal number symbols 1st, 2nd, 3rd, 4th and 5th.
- Learners to play digital games involving position. Learners with blindness could be provided with digital devices with embossed keyboard and voice output.

Work to do

Learners to work out questions from the learner's book in the corresponding Braille page. Describe the rally car colours in the following order :- 1 Red, 2- Blue, 3 Green, 4- Yellow, 5- Orange. Ask learners to match rally car colour to position.

Week 1 Lesson 3

NUMBER CONCEPT

Ordinal Numbers 6 to 10

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to use ordinal number names to identify position from 6 to 10.

Learning Resources

- Braille cards
- Adapted field

Key Inquiry Question

How do you identify positions?

Learning Activities

- Guide learners to form groups of 11, and then ask 10 of them to engage in a running competition. Discuss the safety precautions as they run. Learner with blindness could be assigned sighted guide when taking part in a running competition.
- Learners to form a queue as they complete the race at the finishing line. Learner number 11 assigns ordinal numbers to the competitors as first, second, third, fourth up to tenth. Learner with

blindness could be guided to touch the shoulder of one in front as learner number 11 to assign ordinal numbers to the competitors as sixth, seventh, eighth, ninth and tenth.

3. Discuss the assigning of positions with learners with reference to activity. Describe to learners the items in relation to their position in the following order.

Railway _____

Houses _____

Tree _____

Train _____

Road _____

Bus _____

Lorry _____

Car _____

Teachers _____

Van _____

4. Ask the learners to identify the positions of the items. Using the example in the learner's book in the corresponding Braille page, guide learners to use ordinal number names to identify positions.
5. Learners to play digital games involving positions. Provide learners with blindness with digital devices with embossed keyboard and voice output.

Work to do

Learners to work out questions from the learner's book in the corresponding Braille page.



NUMBER CONCEPT

Ordinal Number Symbols 6th to 10th

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to use ordinal number symbols to identify position from 6th to 10th.

Learning Resources

- Braille cards
- Books
- Pairs of scissors

Key Inquiry Question

What do you consider in identifying the position of an item?

Learning Activities

1. Guide learners in pairs or in groups to arrange 11 mathematics text books on their desks from a reference point.
2. Learners to place braille number cards with ordinal number symbols 1st, 2nd, 3rd, 4th up to 10th on the books from the reference point.
3. Discuss the assigning of positions with learners with reference to activity two (2).
4. Using the example in the learner's book in the corresponding braille page, guide learners to use ordinal number symbols 1st, 2nd, up to 10th. Describe the different types of fruits in the following order. Ask the learners to identify the positions of the fruits.
5. Learners to play digital games involving position. Learners with blindness could be provided with digital devices with embossed keyboard and voice output.

Work to do

Learners to work out questions from the learner's book in the

corresponding Braille page.

Pineapple First Apple _____

Banana _____ Tomato _____

Orange _____ Onion _____

Mango _____ Passion _____

Lemon _____

Pawpaw _____

WHOLE NUMBERS

Time - 7 lessons

Background Information

In grade two learners covered the counting of numbers up to 100. They also identified place value of ones, tens and hundreds as well as reading and writing numbers in words.

In this sub strand these concepts are developed further. Learners will count up to 1000 and identify place value up to thousands. Learners will also make patterns and it is hoped that they will appreciate number patterns as they skip on the adapted number line. For learners with blindness a rope with tied knots corresponding to the number line marks could be used to represent the number line. The teacher should guide learners in playing digital games related to the sub strand in school and outside school. For learners with blindness the digital devices could have voices output and embossed keyboard.

Learners are expected to work in pairs or groups in order to learn from each other which would lead to the development of core competencies. The teacher should bring out 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 for example unity, respect, patriotism, and responsibility among others. The teacher should also involve learners in non-formal activities including planting flowers following a pattern in



the school compound. Learners with blindness could be supported by a sighted guide accompanied by verbal description of the patterns. The teacher may also discuss how the whole number concept is linked to Language, Environmental, 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.

Week 1 Lesson 5

WHOLE NUMBERS

Counting in Ones from 1 to 1000

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to count in ones forward and backwards from 1 to 1000.

Learning Resources

- Braille cards
- Adapted number line
- Braille number charts
- Counters

Key Inquiry Question

How do you count?

Learning Activities

1. Guide learners in pairs or in groups to count objects in ones forward. Discuss the safety precautions as they count.
2. Guide learners in pairs or in groups to count objects in ones both forward and backward. Discuss the safety precautions as they count.
3. Using the example in the learner's in the book in the corresponding braille page, guide learners to count in ones forward and backwards from 1 to 1000.
4. Learners to play digital games involving counting. Provide digital

devices with embossed keyboard and voice output.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.

Week 2 Lesson 1

WHOLE NUMBERS

Counting in Twos

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to count in twos forward and backwards from 1 to 1000.

Learning Resources

- Braille number cards
- Adapted number line
- Braille number charts
- Counters

Key Inquiry Question

How do you count?

Learning Activities

1. Guide learners in pairs or in groups to count objects in twos forward. Discuss the safety precautions as they count.
2. Guide learners in pairs or in groups to count objects in twos both forward and backwards. Discuss the safety precautions as they count.
3. Using the example in the learner's book in the corresponding Braille page, guide learners to count in twos forward and backwards from 1 to 1000.
4. Learners to play digital games involving counting. Learners with blindness could be provided with digital devices with embossed



keyboard and voice output.

Work to do

Learners to work out questions from the learner's book in the corresponding Braille page.

Week 2 Lesson 2

WHOLE NUMBERS

Place Value: Ones and Tens

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to identify place value up to tens.

Learning Resources

- Bundles of sticks
- Spiked Abacus

Key Inquiry Question

How do you identify place value?

Learning Activities

1. Guide learners in pairs or in groups to represent various numbers using bundles of sticks and loose sticks. Discuss the safety precautions as they use the resources and materials.
2. Ask learners in pairs or in groups to identify ones and tens from the bundles of sticks and loose sticks.
3. Guide learners in pairs or groups to represent various numbers using a spiked abacus. Discuss the safety precautions as they use the abacus.
4. Ask learners in pairs or in groups to identify ones and tens from the abacus.
5. Using the example in the learner's book in the corresponding Braille page, learners to identify place value of ones and tens.

- Learners to play digital games involving counting, Learners with blindness could be provided with digital devices with embossed keyboard and voice output.

Work to do

Learners to work out questions from the learner's book in the corresponding Braille page.

Week 2 Lesson 3

WHOLE NUMBERS

Reading Numbers in Symbols

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to read numbers 1 to 100 in symbols.

Learning Resources

- Braille hundred number chart
- Braille cards

Key Inquiry Question

What can we use to represent groups of objects?

Learning Activities

1. Guide learners in pairs or in groups to read the numbers between 1 to 100 in turns using the Braille number chart.
2. Ask learners to read numbers as shown/displayed on Braille cards.
3. Using the activities in the learner's book, guide the learners in reading whole numbers 1 to 100.
4. Learners to play digital games involving numbers. Provide digital devices with embossed keyboard and voices output.

Work to do

Learners to work out questions from the learner's book in the corresponding Braille page.



WHOLE NUMBERS

Reading Numbers in Words

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to read numbers 1 to 50 in words.

Learning Resources

- Braille number chart with number symbols and number names.
- Braille flash cards with number symbols
- Braille cards with number names

Key Inquiry Question

How do we write number symbols in words?

Learning Activities

1. Guide learners in pairs or in groups to read the numbers 1 to 50 in words.
2. Ask learners in pairs or in groups to match number symbols with number words 1 to 50.
3. Ask learners to read numbers 1 to 50 in words.
4. Using the activity in the learner's book in the corresponding braille page, guide learners to read whole numbers 1 to 50 in words.
5. Learners to play digital games involving numbers. Provide learners digital devices with embossed keyboard and voices output.

6. Work to do

Learners to work out questions from the learner's book page 16

WHOLE NUMBERS

Writing Numbers in Words

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to write numbers 1 to 50 in words.

Learning Resources

- Braille number chart with number symbols and number names.
- Braille cards with number symbols
- Braille card with number names

Key Inquiry Question

How can numbers in symbols be written in words?

Learning Activities

1. Guide learners in pairs or in groups to write numbers 1 to 50 in words.
2. Ask learners in pairs or in groups to match number symbols with number words 1 to 50 using the braille number chart.
3. Ask learners to write numbers 1 to 50 in words.
4. Using the activity in the learner's book in the corresponding Braille page, guide learners to write whole numbers 1 to 50 in words.
5. Learners to play digital games involving numbers. Provide learners with digital devices with embossed keyboard and voices output.

Work to do

Learners to work out questions from the learner's book in the corresponding Braille page.



WHOLE NUMBERS

Number Patterns

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to work out missing numbers in number patterns 1 to 10.

Learning Resources

- Braille number cards
- Adapted number line

Key Inquiry Question

How do you identify a missing number in a pattern?

Learning Activities

1. Ask learners in pairs or in groups to arrange numbers on number cards in an increasing order 1 to 10.
2. Guide learners to create a pattern by removing a card and skipping the next. Learners to write the resulting pattern.
3. Guide learners in pairs or groups to create patterns using a number line. For learners with blindness use adapted number line.
4. Ask learners in pairs or in groups to arrange numbers on number cards in a decreasing order 10 to 1.
5. Guide learners to create a pattern by removing a card and skipping the next in a decreasing order and write the resulting pattern.
6. Using examples in the learners book page 18 , guide learners to work out the missing numbers in a number pattern.
7. Learners to play digital games involving numbers. Provide learners adapted digital devices with embossed keyboard and voices output.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.

Week 3 Lesson 2

WHOLE NUMBERS

Number Patterns

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to work out missing numbers in number patterns 1 to 100.

Learning Resources

- Braille number charts
- Braille number cards
- Adapted number line

Key Inquiry Question

How do you identify missing numbers in a pattern?

Learning Activities

1. Ask learners in pairs or in groups to arrange number cards in an increasing order from 1 to 100.
2. Guide learners in creating a pattern by removing a card(s) and skipping one or more to the next, read and write the pattern.
3. Ask learners in pairs or in groups to arrange numbers on number cards in a decreasing order 100 to 1.
4. Guide learners to create a pattern by removing a card(s) and skipping one or more to the next, read and write the pattern.
5. Using activities in the learner's book in the corresponding Braille page, guide learners to work out missing numbers in number patterns.
6. Learners to play digital games involving numbers. Provide learners



with blindness with digital devices with embossed keyboard and voice output.

Work to do

Learners to work out questions from the learner's book in the corresponding Braille page.

FRACTIONS

Time - 4 lessons

Background Information

In this sub strand learners will be introduced to a fraction 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 ($\frac{1}{2}$), a quarter ($\frac{1}{4}$) and an eighth ($\frac{1}{8}$) 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, sticks, bottle tops or any other safe type of counter. Knowledge of division, sorting and grouping acquired in earlier grades will be useful in this sub strand.

Learners are expected to work in pairs or groups in order to learn from each other which would lead to the development of some of the basic education curriculum core competencies. The teacher should bring out 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 for example unity, respect, patriotism and responsibility among others. The teacher should also involve learners in non-formal activities including sharing edible food items in halves and quarters in school. The teacher may also discuss how the concept on fractions is linked to Language 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.

FRACTIONS

Half as Part of a Whole

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to identify half as part of a whole.

Learning Resources

- Manilla cutouts
- Pair of scissors

Key Inquiry Question

How do we represent half as part of a whole?

Learning Activities

1. Guide learners in pairs or in groups to cut circular cutouts. Learners with blindness could work with sighted guide accompanied with verbal instructors. Discuss the safety precautions when handling sharp objects.
2. Guide learners to fold the circular cutouts into 2 equal parts.
3. Guide learners to identify one part as half of the whole.
4. Ask learners to make rectangular cutouts learners with blindness could work with sighted guide accompanied with verbal instructors. and fold into 2 equal parts to get halves.
5. Using activities in the learner's book in the corresponding braille page, guide learners to fold the following shapes into half; oval, circle, triangle, rectangle and identify half as part of a whole.
6. Learners to play digital games involving fractions . Learners with blindness could be provided with digital devices with embossed keyboard.

Work to do

Learners to work out questions from the learner's book in the corresponding Braille page.



FRACTIONS

Quarter as Part of a Whole

Specific Lesson Learning Outcome

By the end of the lesson the learner should be able to identify quarter as part of a whole.

Learning Resources

- Manilla Cutouts
- Pairs of scissors

Key Inquiry Question

How do we represent a quarter as part of a whole?

Learning activities

1. Guide learners in pairs or in groups to cut rectangular cutouts. Learners with blindness could be assigned guides accompanied with verbal instructors. Discuss the safety measures when handling the sharp objects.
2. Guide learners to fold the rectangular cutouts into 4 equal parts.
3. Guide learners to identify that each part is a quarter of the whole.
4. Using activities in the learner's book in the corresponding braille page, guide learners to identify quarter as part of a whole.
5. Learners to play digital games involving fractions. Learners with blindness could be provided with digital devices with embossed keyboard and voice output.

Work to do

Learners to work out questions from the learner's book in the corresponding Braille page.

FRACTIONS

Comparing a Half and a Quarter

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to compare a half and a quarter as part of a whole.

Learning Resources

- Circular cutouts
- rectangular cutouts
- Pairs of scissors

Key Inquiry Question

How do we compare two fractions?

Learning activities

1. Guide learners in pairs and in groups to cut circular and rectangular cutouts. Learners with blindness could work with sighted guide accompanied with verbal instructions. Discuss safety measures when handling the sharp objects.
2. Ask learners to fold the cutouts into 2 and 4 equal parts respectively.
3. Ask learners to identify the half and the quarter parts respectively.
4. Guide learners to compare the half and the quarter.
5. Using the activity in the learner's book in the corresponding braille page, guide learners to identify and compare half and quarter as part of a whole.
6. Learners to play digital games involving fractions. Provide digital devices with embossed keyboards and voice out put .



Work to do

Learners to work out questions from the learner's book in the corresponding braille page.

Week 4 Lesson 1

FRACTIONS

A Half as Part of a Group

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to identify a half as part of a group.

Learning Resources

- Bottle tops of assorted colours indicated by tactile marks.
- Sticks

Key Inquiry Question

How do we represent half of a group?

Learning activities

1. Demonstrate equal sharing of counters in groups. Ask learners in pairs to share bottle tops equally and separate them into two equal groups.
2. Ask learners to count the number of bottle tops each group has.
3. Guide learners to identify each group of bottle tops as half of the whole group.
4. Using the example in the learner's book in the corresponding braille page, guide learners to identify half as part of a group.
5. Learners to play digital games involving fractions. Provide digital device with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.

ADDITION

Time - 8 lessons

Background Information

Addition of up to two 2-digit numbers with and without regrouping has already been covered in the previous grades. 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 3-digit numbers with single regrouping in ones or tens. The concept of number patterns involving addition is also extended to 1000. The teacher can search for digital games that involve addition and guide the learners in playing them.

Learners are expected to work in pairs or groups in order to learn from each other which would lead to the development of core competencies. The teacher should bring out 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 for example unity, respect, patriotism and responsibility among others. The teacher should also involve learners in non-formal activities including planting flowers in patterns in school. Learners with blindness may require support by sighted guides accompanied by verbal instructors. The teacher may also discuss how the addition concept is linked to Languages and Hygiene and Nutrition 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.



ADDITION

Adding a 3- digit number to a 1- digit number

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to add a 3-digit number to a 1- digit number without regrouping vertically and horizontally with sum not exceeding 1000.

Learning Resources

- Place value tins
- Spiked Abacus

Key Inquiry Question

How do we add a 3-digit number to a 1-digit number?

Learning Activities

1. Guide learners in groups to use the abacus in adding a 3-digit number to a 1- digit number without regrouping. Discuss the safety precautions when handling the resource materials.
2. Guide learners in groups to discuss how to add a 3-digit number to a 1- digit number without regrouping vertically and horizontally.
3. Using examples in the learner's book in the braille corresponding page, guide learners to add a 3-digit number to a 1- digit number without regrouping
4. Learners to play digital games involving addition. Provide digital devices with embossed keyboard s and voice output

Work to do

Learners to work out questions from the learners book in the corresponding braille pages.

ADDITION

Adding a 3-digit number to a 1-digit number

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to add a 3- digit number to a 1- digit number with regrouping with sum not exceeding 1000 vertically and horizontally.

Learning Resources

- Place value tins
- spiked Abacus

Key Inquiry Question

How do we add a 3-digit number to a 1-digit number with regrouping?

Learning Activities

- 1) Guide learners in pairs or in groups in using a spiked abacus to add a 3-digit number to a 1-digit number with regrouping.
- 2) Ask learners in pairs to discuss how to add a 3-digit number to a 1-digit number with regrouping vertically and horizontally.
- 3) Using examples in the learner's book in the corresponding braille, guide learners to add a 3-digit number to a 1- digit number with regrouping
- 4) Learners to play digital games involving addition. Provide learners with digital devices with embossed keyboard s and voice out put.

Work to do

Learners to work out questions from the book in the corresponding braille page.



ADDITION

Adding a 3-digit number to a 2-digit number

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to add a 3-digit number to a 2-digit number without regrouping with sum not exceeding 1000 vertically and horizontally.

Learning Resources

- Place value tins
- Spiked Abacus

Key Inquiry Question

How do we add a 3-digit number to a 2-digit number?

Learning Activities

- 1) Guide learners in pairs or in groups in using the value tins or spiked abacus to add a 3-digit number to a 2-digit number without regrouping vertically and horizontally.
- 2) Ask learners in pairs to discuss how to add a 3-digit number to a 2-digit number without regrouping vertically and horizontally.
- 3) Using activities in the learner's book in the corresponding Braille page, guide learners to add a 3-digit number to a 2-digit number without regrouping.
- 4) Learners to play digital games involving addition. Provide digital device with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding Braille page.

ADDITION

Adding a 3-digit number to a 2-digit number

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to add a 3-digit number to a 2-digit number with single regrouping with sum not exceeding 1000 vertically and horizontally.

Learning Resources

- Place value tins
- Spiked Abacus

Key Inquiry Question

How do we add numbers with regrouping?

Learning Activities

- 1) Guide learners in pairs or in groups in using the spiked abacus to add a 3-digit number to a 2-digit number with single regrouping vertically. Discuss the safety precautions when handling the resources and materials.
- 2) Ask learners in pairs to discuss how to add a 3-digit number to a 2-digit number with single regrouping vertically and horizontally.
- 3) Using examples in the learner's book in the corresponding braille page, guide learners to add a 3-digit number to a 2-digit number with single regrouping.
- 4) Learners to play digital games involving addition. Provide digital device with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.



ADDITION

Adding 3-single digit numbers

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to add 3-single digit numbers with sum not exceeding 10.

Learning Resources

- Bottle tops
- Sticks
- Grains
- Adapted number line

Key Inquiry Question

How do we add 3-single digit numbers?

Learning Activities

- 1) Guide learners in pairs or in groups to add 3-single digit numbers with sum not exceeding 10 using concrete objects and the adapted number line. Discuss the safety precautions when handling the resources and materials.
- 2) Ask learners in pairs to discuss how to add 3-single digit numbers with sum not exceeding 10.
- 3) Using activities in the learner's book in the corresponding braille page, guide learners to add 3-single digit numbers with sum not exceeding 10.
- 4) Learners to play digital games involving addition. Provide digital device with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.

ADDITION

Adding two 3-digit numbers

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to add two 3-digit numbers vertically and horizontally without regrouping with sum not exceeding 500.

Learning Resources

- Place value tins
- Spiked abacus

Key Inquiry Question

How do we add two 3-digit numbers?

Learning Activities

- 1) Guide learners in pairs or in groups in using the place value tins to add two 3-digit numbers vertically and horizontally without regrouping with sum not exceeding 500.
- 2) Ask learners in pairs to discuss how to add two 3-digit numbers vertically and horizontally without regrouping with sum not exceeding 500.
- 3) Using examples in the learner's book in the corresponding braille page, guide learners to add two-digit numbers vertically and horizontally without regrouping with sum not exceeding 500.
- 4) Learners to play digital games involving addition. Provide digital device with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.



Adding two 3-digit numbers

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to add two 3-digit numbers with single regrouping with sum not exceeding 1000 vertically and horizontally.

Learning Resources

- Place value tins
- Spiked abacus

Key Inquiry Question

How do we add two 3-digit numbers vertically?

Learning Activities

- 1) Guide learners in pairs or in groups to use the place value tin to add two 3- digit numbers with single regrouping vertically.
- 2) Ask learners in pairs to discuss how to add two 3-digit numbers vertically and horizontally with single regrouping with sum not exceeding 1000.
- 3) Using examples in the learner's book in the corresponding braille page, guide learners to add two 3-digit numbers vertically and horizontally with single regrouping with sum not exceeding 1000.
- 4) Learners to play digital games involving addition. Provide digital device with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.

ADDITION

Number Patterns

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to write the missing numbers in number patterns up to 1000 involving addition.

Learning Resources

- Braille number cards
- Braille hundred chart
- Pocket boards

Key Inquiry Question

How do you find missing numbers in number patterns?

Learning Activities

1. Guide learners in pairs or in groups to use braille number cards, braille hundred chart, and pocket boards to fill in the missing numbers in number patterns involving addition.
2. Learners in pairs to discuss and come up with different ways of filling in the missing numbers in number patterns up to 1000 involving addition.
3. Using examples in the learner's book in the corresponding braille page , guide learners to fill in missing numbers in number patterns up to 1000 involving addition.
4. Learners to play digital games involving addition. Provide digital device with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.



SUBTRACTION

Time - 7 lessons

Background Information

Subtraction was introduced in earlier grades as taking away. In grade two, subtraction of up to 2-digit numbers without regrouping was covered. The relationship between addition and subtraction as well as number pattern involving subtraction is also covered in grade two. It is on this pre-requisite that the concept of subtraction of up to 3-digit numbers is developed. Missing numbers in patterns involving subtraction of up to 1000 will also be taught under this sub strand.

Learners are expected to work in pairs or groups in order to learn from each other which would lead to the development of core competencies. The teacher should bring out 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 for example unity, respect, patriotism and responsibility, among others. The teacher should also involve learners in non-formal activities including 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 environmental activities organized by community members as a way of promoting learning outside the school.

Week 5 Lesson 5

SUBTRACTION

Subtracting a 1-digit number from a 2-digit number

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.

Learning Resources

- Place value tins

- Spiked abacus

Key Inquiry Question

How do we subtract numbers?

Learning Activities

1. Guide learners in pairs or in groups in using the place value apparatus to subtract a 1-digit number from a 2-digit number without regrouping. Discuss the safety precautions when handling the resources and materials.
2. Learners in pairs to discuss and come up with different ways of subtracting a 1-digit number from a 2-digit number without regrouping.
3. Using examples in the learner's book in the corresponding braille page.
4. , guide learners to subtract a 1-digit number from a 2-digit number without regrouping.
5. Learners to play digital games involving subtraction. Provide digital device with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.



SUBTRACTION

Subtracting two 2-digit numbers

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to subtract two 2-digit numbers without regrouping.

Learning Resources

- Place value tins
- Spiked abacus

Key Inquiry Question

How do we subtract two 2-digit numbers?

Learning Activities

1. Guide learners in pairs or in groups to use the spiked abacus in subtracting two 2-digit numbers without regrouping. Discuss the safety precautions when handling the resources and materials.
2. Learners in pairs to discuss and come up with different ways of subtracting two 2-digit numbers without regrouping.
3. Using activities in the learner's book in the corresponding braille page , guide learners to subtract two 2-digit numbers without regrouping.
4. Learners to play digital games involving subtraction. Provide digital device with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.

SUBTRACTION

Subtracting a 1-digit number from a 2-digit number

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 with single regrouping.

Learning Resources

- Place value tins
- Bundles of sticks and loose sticks
- Spiked abacus

Key Inquiry Question

How do we subtract numbers?

Learning Activities

1. Guide learners in pairs or in groups to use bundles of sticks and loose sticks to subtract a 1-digit number from a 2-digit number with single regrouping.

Discuss the safety precautions when handling the resources and materials.

2. Learners in pairs or in groups to discuss and come up with different ways of subtracting a 1-digit number from a 2-digit number with single regrouping.
3. Using examples in the learner's book in the corresponding braille page, guide learners to subtract a 1-digit number from a 2-digit number with single regrouping.
4. Learners to play digital games involving subtraction. Provide digital device with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.



SUBTRACTION

Subtracting two 2-digit numbers

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to subtract two 2-digit numbers with regrouping.

Learning Resources

- Place value tins
- Spiked abacus

Key Inquiry Question

How do we subtract numbers?

Learning Activities

1. Guide learners in pairs or in groups to use the place value tins to subtract two 2-digit numbers with regrouping.
2. Learners in pairs to discuss and come up with different ways of subtracting two 2-digit numbers with regrouping.
3. Using examples in the learner's book in the corresponding braille page, guide learners to subtract 2 digit numbers with regrouping
guide learners to subtract two 2-digit numbers with regrouping.
4. Learners to play digital games involving subtraction. Provide digital device with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.

SUBTRACTION

Subtracting multiples of 10

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to subtract multiples of 10 up to 100.

Learning Resources

- Place value tins
- Adapted number line
- Spiked abacus

Key Inquiry Question

How do we subtract multiples of ten?

Learning Activities

1. Guide learners in pairs or in groups to use the place value tin, in subtracting multiples of 10 up to 100.
2. Learners in pairs to discuss and come up with different ways of subtracting multiples of 10 up to 100.
3. Using the example in the learner's book in the corresponding braille page, guide learners to subtract multiples of 10 up to 100.
4. Learners to play digital games involving subtraction. Provide digital device with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.



SUBTRACTION

Subtracting a 2-digit number from a 3-digit number

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to subtract a 2-digit number from a 3-digit number without regrouping.

Learning Resources

- Place value tins
- Spiked abacus

Key Inquiry Question

How do we subtract numbers?

Learning Activities

1. Guide learners in pairs or in groups to use the place value tins to subtract a 2-digit number from a 3-digit number without regrouping.
2. Learners in pairs to discuss and come up with different ways of subtracting a 2-digit number from a 3-digit number without regrouping.
3. Using examples in the learner's book in the corresponding braille page , guide learners to subtract a 2-digit number from a 3-digit number without regrouping.
4. Learners to play digital games involving subtraction. Provide digital device with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.

SUBTRACTION

Number patterns

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to work out missing numbers in number patterns up to 100 involving subtraction.

Learning Resources

- Braille number cards
- Braille hundred chart
- Pocket boards

Key Inquiry Question

How do we work out missing numbers in number patterns?

Learning Activities

1. Guide learners in pairs or in groups to use braille number cards/ braille hundred chart/ pocket boards to work out missing numbers in number patterns.
2. Learners in pairs to discuss and come up with different ways of working out missing numbers in number patterns up to 100 involving subtraction.
3. Using examples in the learner's book in the corresponding braille page, guide learners to work out missing numbers in number patterns up to 100 involving subtraction.
4. Learners to play digital games involving subtraction. Provide digital device with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.



MULTIPLICATION

Time - 3 lessons

Background Information

Multiplication is introduced in grade two 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. It is hoped that the teachers will use equal groups of objects a number of times to relate repeated addition with multiplication sentences.

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.

Learners are expected to work in pairs or groups in order to learn from each other which would lead to the development of core competencies. The teacher should bring out 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 for example 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.

MULTIPLICATION

Multiplying Numbers 1 to 10 by 2 and 3

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to multiply numbers 1 to 10 by 2 and 3.

Learning Resources

- Counters
- Braille number arrays

Key Inquiry Question

How do we use repeated addition to work out multiplication?

Learning activities

1. Guide learners in pairs or in groups on using counters to multiply numbers 1 to 10 by 2 and 3 using repeated addition.
2. Learners in pairs to discuss and come up with different ways of working out multiplication as repeated addition.
3. Using examples in the learner's book in the corresponding braille page, guide learners to work out multiplication of numbers 1 to 10 by 2 and 3.
4. Learners to play digital games on multiplication. Provide digital device with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.



MULTIPLICATION

Multiplying Numbers 1 to 10 by 4 and 5

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to multiply numbers 1 to 10 by 4 and 5.

Learning Resources

- Counters
- Braille number arrays

Key Inquiry Question

How do we use multiplication table to work out multiplication?

Learning activities

1. Guide learners in pairs or groups to work out braille multiplication of numbers 1 to 10 by 4 and 5 using the braille multiplication table.
2. Learners in pairs to discuss and come up with different ways of working out multiplication of numbers 1 to 10 by 4 and 5.
3. Using examples in the learner's book in the corresponding braille page, guide learners to work out multiplication of numbers 1 to 10 by 4 and 5 using a multiplication table.
4. Learners to play digital games on multiplication. Provide digital device with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.

MULTIPLICATION

Multiplying Numbers 1 to 10 by 10

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to multiply numbers 1 to 10 by 10.

Learning Resources

- Braille counters
- Number arrays
- Braille multiplication table

Key Inquiry Question

How do we use braille multiplication table to work out multiplication?

Learning activities

1. Guide learners in pairs or in groups to work out multiplication of numbers 1 to 10 by 10 using the braille multiplication table.
2. Learners in pairs to discuss and come up with different ways of working out multiplication of numbers 1 to 10 by 10.
3. Using the example in the learner's book in the corresponding braille page, guide learners to work out multiplication of numbers 1 to 10 by 10.
4. Learners to play digital games on multiplication. Provide digital device with embossed keyboard and voice out put.

Work to do

Learners work out questions from the learner's book in the corresponding braille page .

DIVISION

Time - 3 lessons

Background Information



Division is taught for the first time in this grade. However, it is not a new concept as learners have had experiences in their day to day life or even during play. Division is introduced as repeated subtraction hence it is important for the learners to have mastered subtraction of whole numbers. In this sub strand the relationship between multiplication and division will be taught and the learners will be expected to use the braille multiplication table to get the result of division questions as division is the inverse of multiplication. Digital games involving division will enhance the development of this concept.

Learners are expected to work in pairs or groups in order to learn from each other which would lead to the development of core competencies. The teacher should bring out 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 for example unity, respect, patriotism and responsibility among others. The teacher should also involve learners in non-formal activities including planting seedlings in rows in the school compound. Learners with blindness could work with sighted guides accompanied by verbal instructions. The teacher may also discuss how the division concept is linked to Languages and Environmental activities. Learners could visit children's homes and share fruits with them as a way of giving back to the community.

Week 7 Lesson 5

DIVISION

Dividing Single Digit Numbers

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to divide single digit numbers through repeated subtraction.

Learning Resources

- Counters
- Adapted number line

Key Inquiry Question

How do we divide numbers using repeated subtraction?

Learning Activities

- 1) Learners to form groups of objects. They take away from the group a specific number of counters at a time until all are finished. Count the number of times a group of objects have been removed from the larger group. Discuss safety precautions when using resources and materials.
- 2) Guide learners to write division sentences from the repeated subtraction in activity one (1).
- 3) Using the example in the learner's book in the corresponding braille page , guide learners to divide single digit numbers through repeated subtraction.
- 4) Learners play digital games involving division. Provide digital device with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.



DIVISION

Division of up to 25 by 2, 3, 4 and 5

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 through repeated subtraction.

Learning Resources

- Counters
- Adapted number line

Key Inquiry Question

How do we divide numbers using repeated subtraction?

Learning Activities

1. Learners to form groups of counters. Ask learners to take away from the group a specific number of counters at a time until all are finished. Count the number of times a group of objects have been removed from the larger group. Discuss safety precautions when using resources and materials.
2. Guide learners to skip a given number of steps backwards uniformly from a given number on the adapted number line until they stop at zero. Ask learners to count the number of jumps made.
3. Ask learners to write a division sentence as repeated subtraction.
4. Using examples in the learner's book in the corresponding braille page, guide learners to divide numbers up to 25 by 2, 3, 4 and 5 through repeated subtraction.
5. Learners play digital games involving division. Provide digital device with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's in the corresponding braille page. Guide learners to skip as per the numbers in the pupils book by 2 steps, 4 steps, 3 steps , 7 steps, and 2 steps.

Week 8 Lesson 2

DIVISION

Relationship between Multiplication and Division

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to relate division and multiplication using multiplication sentences up to 5×5 .

Learning Resources

- Braille multiplication table
- Counters

Key Inquiry Question

How do we use the multiplication table to work out division questions?

Learning Activities

1. Guide learners to read a given number in the braille multiplication table.
2. Guide learners to move horizontally on the row of the number and vertically in the column of the number to identify the numbers being multiplied.
3. Using the example in the learner's book in the corresponding braille page. guide learners to discuss the relationship between division and multiplication using the braille multiplication table.
4. Learners to play digital games involving division. Provide digital device with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.



General Learning Outcome

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

LENGTH

Time - 2 lessons

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 involved in measuring length in metres. The learners will also be expected to be able to estimate lengths up to 20 metres hence they should be involved in many measuring activities for them to be able to estimate.

Learners are expected to work in pairs or groups in order to learn from each other which would lead to the development of core competencies. The teacher should bring out 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 for example unity, respect, patriotism and responsibility, among others. The teacher should also involve learners in non-formal activities including 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/rabbit cages, among others, as a way of promoting learning outside the classroom.

LENGTH

Measuring Length in Metres

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to measure length in metres.

Learning Resources

- Tactile metre rule
- 1 Metre sticks
- Strings

Key Inquiry Question

How do we measure length?

Learning Activities

1. Guide learners in pairs or groups to prepare one-metre sticks from a metre rule. Discuss safety precautions when using resources and materials.
2. Guide learners in pairs to measure the lengths of different objects in metres and share their experiences/findings. Learners with blindness could work with sighted guide accompanied by the verbal instructions.
3. Using the activity in the learner's book in the corresponding braille page, guide learners to measure length in metres of various objects.
4. Learners to play digital games involving length. Provide digital device with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book book in the corresponding braille page.



LENGTH

Estimating Length

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to estimate length up to 20 metres.

Learning Resources

- Tactile metre rule
- 1 Metre sticks
- 5 metre Strings

Key Inquiry Question

How do we measure length in metres?

Learning Activities

1. Guide learners in pairs or groups to prepare 5 metre long strings with knots at intervals of 1 metre. Discuss safety precautions when using resources and materials.
2. Ask learners in pairs or groups to go out to the field and estimate various distances such as length of the football, basketball and netball fields, tuition block, foot paths and record their estimates. Learners with blindness could work with sighted guide accompanied by the verbal instructions.
3. Ask learners in pairs or groups to measure and record lengths of the various distances using the 5 meter string.
4. Learners in pairs or groups to compare the estimates and the measured lengths to determine how close their estimates were. Ask learners to share their findings with other groups.
5. Using the example in the learner's book in the corresponding braille page, guide learners to estimate lengths.

- Learners to play digital games involving length. Provide digital device with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille,

MASS

Time - 2 lessons

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 involved in measuring mass in kilograms and also in adding and subtracting mass in kilograms. The learners will also be expected to be able to estimate mass up to 5 kilograms hence they should be involved in many measuring activities using a beam balance or measuring scale for them to be able to estimate.

Learners are expected to work in pairs or groups in order to learn from each other which would lead to the development of some of core competencies. The teacher should bring out 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 for example unity, respect, patriotism and responsibility among others. The teachers should involve learners in non-formal activities including measuring mass of items in their classroom in kilograms during their free time. The teacher may also discuss how the mass concept is linked to Languages and Environmental activities. Learners to assist their neighbours in measuring mass of items in their homes in kilograms as a way of promoting learning outside the classroom.



MASS

Measuring Mass

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to measure mass in kilograms.

Learning Resources

- Beam balance/Talking beam balance
- Packets of Maize seeds
- Packets of Bean seeds
- 1 kilogram mass
- Chalkboard dusters
- Mathematical\Activities text books

Key Inquiry Question

How can we make a 1kg mass using a beam balance?

Learning Activities

1. Ask learners to collect sand or soil from the environment and provide them with beam balances. Guide learners on safety precautions when doing the activity.
2. Ask learners in pairs or groups to discuss how they will use the beam balances and the soil or sand to make 1 kg mass.
3. Guide learners in pairs or groups in making 1kilogram masses using the sand or soil and the beam balances. Learners with blindness could work with sighted guide accompanied by verbal instructions.
4. Guide learners in pairs or groups in measuring mass of other objects such as beans using the 1 kilogram mass. Ask learners to share their experiences with other groups.

Work to do

Learners to work out questions from the learners book in the corresponding braille page. Learners with blindness could work with sighted guides accompanied with verbal instructions



MASS

Estimating Mass

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to estimate mass up to 5 kilograms.

Learning Resources

- Five 1- kilogram masses
- Objects of different masses

Key Inquiry Question

How do we estimate mass in kilograms?

Learning Activities

1. Provide learners in pairs or groups with objects of different masses and beam balances. Ask learners in pairs or groups to estimate masses of different objects and record.
2. Ask learners in pairs or groups to discuss how they will use the beam balances and 1kg masses to measure mass of different objects up to 5 kg.
3. Guide learners in pairs or groups to measure the mass of different objects using a beam balance and the 1kg masses and record next to the estimates from activity (1). Learners with blindness could work with sighted guide accompanied by the verbal instructions. Ask learners to share their findings with other groups.
4. Using the activities in the learner's book in the corresponding page, guide learners to estimate mass up to 5 kilograms.
5. Learners to play digital games involving mass. Provide digital device with embossed keyboard and voice out put.

Work to do

Learners to work out activity from the learner's book in the corresponding braille page. Learners with blindness could work with sighted guides accompanied with verbal instruction.

CAPACITY

Time - 2 lessons

Background Information

The development of the concepts under measurements follows 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 involved in measuring capacity in litres and also in adding and subtracting capacity in litres. The learners should be involved in a variety of measuring activities using a 1- litre container for them to be able estimate capacity up to 5 litres.

Learners are expected to work in pairs or groups in order to learn from each other which would lead to the development of core competencies. The teacher should bring out 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 for example unity, respect, patriotism and responsibility among others. The teacher should involve learners in non-formal activities including 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 in measuring capacity of containers used for storing liquids



CAPACITY

Measuring Capacity

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to measure capacity in litres.

Learning Resources

- 1 litre containers
- Water
- Containers of various capacities.

Key Inquiry Question

What can we use to measure capacity?

Learning Activities

1. Provide learners in pairs or groups with a 1-litre container and other containers of various capacities. Ask learners to discuss how to use the 1-litre container to measure the capacity of the other containers.
2. Ask learners in pairs or in groups to use the 1-litre container to measure capacity of other containers and record. Learners with blindness could work with sighted guide accompanied by the verbal instructions. Ask learners to share their findings with other groups.
3. Using the activity in the learner's book in the corresponding braille page, guide learners to measure the capacity of the containers.
4. Learners to play digital games involving capacity. Provide digital device with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding

braille page. Learners with blindness could work with sighted guides accompanied with verbal instructions

Week 9 Lesson 3

CAPACITY

Estimating Capacity

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to estimate capacity up to 5 litres.

Learning Resources

- 1 litre containers
- Water
- Containers of various capacities

Key Inquiry Question

How do we estimate capacity?

Learning Activities

1. Ask learners in groups or pairs to estimate capacity of the various containers and record their estimation.
2. Ask learners in groups or pairs to measure the capacity of containers in activity one (1) and record alongside their estimation. Learners with blindness could work with sighted guide accompanied by the verbal instructions.
3. Learners in groups to discuss difference between the estimate and the actual capacity. Ask learners to share their findings with other groups.
4. Using the activity in the learner's book in the corresponding braille page, guide learners to estimate the capacity of containers.
5. Learners to play digital games involving capacity. Provide digital device with embossed keyboard and voice out put.

Work to do



Learners to work out questions from the learner's book in the corresponding braille page.

TIME

Time - 4 lessons

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 which include hours, minutes and seconds. In this sub strand, reading and telling of time involves both the analogue and digital clocks. When dealing with addition and subtraction of units of time, the teacher should bring out real life experiences in which duration of time can be comprehended. Estimation of time is an important aspect in day to day life hence learners should be involved in estimating time durations.

Learners are expected to work in pairs or groups in order to learn from each other which would lead to the development of core competencies. The teacher should bring out 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 for example unit, respect, patriotism and responsibility among others. The teacher should involve learners in non-formal activities including cleaning their classroom during free time. The teacher may also discuss how the time concept is linked to Language activities and Religious activities. As a form of community service learning activity learners could assist their neighbours in keeping their compounds clean during school holidays.

TIME

The Hour Hand and Minute Hand

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to identify the hour hand and the minute hand.

Learning Resources

- Manila cutouts
- Pair of scissors
- Tactile clock face
- Felt pen
- Sand
- Grains
- pins
- Glue

Key Inquiry Question

What is the difference between the hour and the minute hand of a clock?

Learning Activities

1. Guide learners in pairs or in groups to cut circular cut outs 15 cm wide and two strips of manila paper, a short and a longer one. Discuss safety when handling resources and materials.
2. Guide learners to make a clock face with materials in (1) above, marking on the circular cut out numbers 1 to 12. Learners with blindness could work with sighted guides accompanied by verbal instructions. Marking of the numbers on the clockface could be embossed using items such as grains, pins, sand and glue.
3. Guide learners to fix on the clock face the two strips at the centre. Ask learners to identify the hour hand and the minute hand using



the clock face.

4. Using the activity in the learner's book in the corresponding braille page, guide learners to identify the hour hand and the minute hand.
5. Learners to play digital games involving time. Provide digital device with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.

Week 9 Lesson 5

Relationship between the Hour Hand and Minute Hand

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to identify the relationship between the hour hand and minute hand.

Learning Resources

- Manila cutouts
- Pair of scissors
- Tactile clock face
- Felt pen
- Grains
- Sand
- Glue
- Pins

Key Inquiry Question

What is the relationship between the hour and minute hand of a clock?

Learning activities

1. Guide learners in pairs or in groups to discuss what they can feel on the tactile clock face prepared in the previous lesson. Ask learners to share with others what they can feel on the clock face.
2. Discuss with the learners the relationship between the hour hand and the minute hand.

3. Using the activity in the learner's book in the corresponding braille page, guide learners to relate the hour hand to the minute hand.
4. Learners to play digital games involving time. Provide digital device with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.



TIME

Reading and Telling Time by the Hour

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to read and tell time by the hour.

Learning Resources

- Tactile clock face

Key Inquiry Question

How do you read and tell time by the hour?

Learning Activities

1. Using the Tactile clock faces prepared from the previous lessons, guide learners in pairs or in groups to mark, read and tell time by the hour.
2. Ask learners in pairs to feel the tactile clock face. Mark time by the hour and read to each other.
3. Using the activity in the learner's book in the corresponding braille page, guide learners read time by the hour.
4. Learners to play digital games involving time. Provide digital device with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page

TIME

Reading and Telling Time 'past' the Hour

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to read and tell

time “past” the hour.

Learning Resources

- Tactile clock face

Key Inquiry Question

How do we read and tell time “past” the hour?

Learning Activities

1. Using the tactile clock faces prepared from the previous lessons, guide learners in pairs or in groups to mark, read and tell time “past” the hour.
2. Ask learners in pairs to feel the tactile clock face. Mark time “past” the hour and read to each other.
3. Using the example in the learner’s book in the corresponding braille page, guide learners to read and tell time “past” the hour.
4. Learners to play digital games involving time. Provide digital device with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner’s book in the corresponding braille page

MONEY

Time - 4 lessons

Background Information

The teaching of money begins with the learners being guided to identify the different currency coins and notes. In earlier grades learners perform shopping activities which lead to differentiating concepts like balance and change. Later learners are expected to be able to relate a given amount of money to goods and services.

This sub strand also includes needs and wants as well as spending and saving which learners need to understand to be able to make



meaningful decisions on money issues.

Learners are expected to work in pairs or groups in order to learn from each other which would lead to the development of core competencies. The teacher should bring out 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 for example 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 Language, Environmental and Religious activities. As a community service activity to support learning, learners assist in counting money offered in religious and non-religious functions.

Week 10 Lesson 3

MONEY

Kenyan Currency Notes

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to identify Kenyan currency notes up to sh. 1000.

Learning Resources

- Kenyan currency notes

Key Inquiry Question

How do you identify Kenyan currency notes?

Learning Activities

1. Guide learners in pairs or groups to sort out Kenyan currency notes according to their values and features up to sh. 1000. Learners with blindness could work with sighted guide accompanied by the verbal instructions to identify the features of the kenyan currency notes. The sighted guide describe the features of each currency note.
2. Ask learners in pairs or groups to discuss the features and values of

the Kenyan currency notes. Ask learners from different groups to share the features identified in their groups.

3. Using the activity in the learner's book in the corresponding braille page, guide the learners to identify the features and values of the Kenyan currency notes.
4. Learners to play digital games involving money. Provide digital device with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page. Discuss the features of the Kenyan currency notes.

Week 10 Lesson 4

Counting Money

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to count money in different denominations up to sh. 1000.

Learning Resources

- Kenyan currency notes

Key Inquiry Question

How do we identify Kenyan currency notes?

Learning Activities

1. Guide learners in pairs or groups to put together notes of different denominations and state their total value.
2. Ask learners to share the total value of the notes with other groups.
3. Using the activity in the learner's book in the corresponding braille page, guide learners to count money in different denominations up to sh. 1000.
4. Learners to play digital games involving money. Provide digital device with embossed keyboard and voice out put.



5. Work to do

Learners to work out questions from the learner's book in the corresponding braille page

Week 10 Lesson 5

MONEY

Shopping Activities Involving Change

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to carry out shopping activities involving change.

Learning Resources

- Kenyan currency notes
- Imitation money

Key Inquiry Question

What is change in money?

Learning Activities

1. Guide learners in pairs or in groups to role-play giving change in the classroom shop.
2. Ask learners to share their experiences of getting change with other groups.
3. Using the example in the learner's book in the corresponding braille page, guide learners to carry out shopping activities involving change.
4. Learners to play digital games involving money. Provide digital device with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page

MONEY

Shopping Activities Involving Balance

Specific Lesson Learning Outcome

By the end of the lesson the learner should be able to carry out shopping activities involving balance.

Learning Resources

- Kenyan currency notes
- Imitation money

Key Inquiry Question

What is balance in money?

Learning Activities

1. Guide learners in pairs or in groups to role-play giving balance in the classroom shop.
2. Ask learners to share their experiences with other groups.
3. Using the examples in the learner's book in the corresponding braille page, guide learners to carry out shopping activities involving balance.
4. Learners to play digital games involving money. Provide digital device with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page

General Learning Outcome

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

POSITION AND DIRECTION

Time - 2 lessons

Background Information

The learning of geometry starts with the learners modeling straight and curved lines. Position and direction is an important aspect in our day to day life hence the need to consider this in this sub strand. It is expected that the learners will be able to follow instructions on moving straight, turning right or left and even guide people to follow directions to get to a destination.

Learners are expected to work in pairs or groups in order to learn from each other which would lead to the development of core competencies. The teacher should bring out 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 for example unity, respect, patriotism and responsibility among others. The teacher should involve learners in non-formal activities including arranging seats in straight lines in the classroom. The teacher may also discuss how the position and direction concept is linked to Movement and creative and Environmental activities. As a community service activity to support learning learners could assist in arranging seats in straight lines in community functions.

Week 11 Lesson 2

POSITION AND DIRECTION

Turning to the Right

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to move along a

straight line from a point and turn to the right.

Learning Resources

- School compound
- Landmarks

Key Inquiry Question

What do you do when you get to a road junction?

Learning Activities

1. Guide learners in pairs or groups to discuss the direction to take after reaching a road junction. Learners to write possible directions to take at a road junction.
2. The teacher to take learners for an outdoor activity involving turning right. Assist learners to identify their right hands. Learners with blindness could work with sighted guide accompanied by the verbal instructions . Learners could be guided to use landmark to identify their direction. Discuss safety precautions when performing the activity.
3. Using land marks and clues, discuss with the learners how to turn right from a point in real life situations.
4. Learners to play digital games involving position and direction. Provide digital device with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.

Week 11 Lesson 3

POSITION AND DIRECTION

Turning to the Left

Specific Lesson Learning Outcome

By the end of the lesson, the learner should able to move along a



straight line from a point and turn to the left.

Learning Resources

- School compound
- Landmarks

Key Inquiry Question

What do you do when you get to a road junction?

Learning Activities

1. Take learners out of the classroom. Guide learners to identify their left hands. Guide the learners to move along a straight line and then turn left. Learners with blindness could work with sighted guide accompanied by the verbal instructions. The straight line could be represented by a rope or rail.
2. Ask learners in pairs to practice moving along straight lines from a point and then turning left.
3. Using the landmarks in the school, discuss with the learners how to turn left from a point in real life situations.
4. Learners to play digital games involving position and direction. Provide digital device with embossed keyboard and voice output.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.

SHAPES

Time - 3 lessons

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.

Later they are able to identify different shapes and make patterns using them. The concept of making patterns is further developed in this sub strand and learners may pick it up and get involved in making patterns on cloths or belts, a business venture in their free time, later in life.

Learners are expected to work in pairs or groups in order to learn from each other which would lead to the development of core competencies. The teacher should bring out 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 for example unity, respect, patriotism and responsibility among others. The teacher should involve learners in non-formal activities including 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 made of paper and other materials as a way of community service learning.

Week 11 Lesson 4

Geometrical Shapes

Lines and shapes

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to identify different types of lines and shapes.

Learning Resources

- Pieces of string
- Rectangular, Circular, Triangular, Oval and Square cut outs

(all of different colours and sizes)

Key Inquiry Question

What shapes can you identify in your school?



Learning activities

1. Guide learners in pairs or in groups to name, sort and group items of different shapes.
2. Ask learners to make different lines and shapes.
3. Ask the learners to display their work.
4. Using the lines and shapes , discuss with the learners the different lines and shapes.
5. Learners to play digital games involving lines and shapes. Provide digital device with embossed keyboard and voice out put.

Work to do

- Learners to work out questions from the learner's book in the corresponding braille page.
- Provide learners with shapes with letter inscription as follows;
 - A - Triangle
 - B - Square
 - C - Rectangle
 - D - Circle
 - E - Triangle

Week 11 Lesson 5

SHAPES

Patterns

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to make patterns using different shapes.

Learning Resources

Rectangular, circular, triangular, oval and square cut outs

Key Inquiry Question

What patterns can you identify in your school?

Learning Activities

- 1) Guide learners in pairs to identify and make different shapes.
- 2) Ask learners in pairs to make patterns using different shapes. Learners with blindness could work with sighted guide accompanied by the verbal instructions. They could be guided to make patterns using different shapes.
- 3) Using the example in the learner's book in the corresponding braille page, guide learners to make patterns using different shapes.
- 4) Provide learners with a pair of shapes as follows:

1) Oval, Triangle, circle _____

The pattern is: Oval, Triangle, circle, Oval, Triangle, circle, Oval,
Triangle, circle

2) Triangle, Triangle, Rectangle, _____

The pattern is; Triangle, Triangle, Rectangle, Triangle, Triangle,
Rectangle,

Ask the learners to complete the patterns.

- 5) Learners to play digital games involving shapes. Provide digital device with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page. Provide a pair of patterns of shapes as follows:

- 1) Oval, circle, triangle square and rectangle.
- 2) Square, square, 3 circles, 2 squares.
- 3) Square, triangle, square, triangle, square, triangle



4) Triangle, 3 circles, Triangle, 3 circles, Triangle.

Ask the learners to complete the patterns.

ANSWERS FOR TERM 1

WEEK 1 LESSON: 1

1. School Day Position

Tuesday is the second day of the school days.

Friday is the fifth day of the school days.

Monday is the first day of the school days.

Wednesday is the third day of the school days.

Thursday is the fourth day of the school days.

2. Grade Position

Grade 2 First position

Grade 3 Second position

Grade 4 Third position

Grade 5 Fourth position

Grade 6 Fifth position

WEEK 1 LESSON 2

1. Colour position

Red is the first position

Blue is the second position

Green is the third position

Yellow is the fourth position

Orange is the sixth



2. Month of the year

April is the 4th month of the year

May is the 5th month of the year

January is the 1st month of the year

March is the 3rd month of the year

February is the second month of the year

WEEK 1 LESSON 3

January is the first month of the year

February is the second month of the year

March is the third month of the year

Sixth is the month of the year

April is the fourth month of the year

May is the fifth month of the year

June is the seventh month of the year

July is the seventh month of the year

August is the eighth month of the year

September is the ninth month of the year

October is the tenth month of the year

November is the first month of the year

December is the first month of the year

WEEK 1 LESSON 4

1st

3rd

4th

5th

6th

7th

8th

9th

WEEK 1 LESSON 5

1. 108, 109,

2. 315, 317,

3. 597, 596,

4. 822, 821,

5. 903, 904,

6. 997, 996,

WEEK 2 LESSON 1

1. 517, 519

6. 106, 108

2. 616, 618

7. 73, 71

3. 319, 317

8. 36, 38

4. 749, 747

5. 992, 990



WEEK 2 LESSON 2

- | | | |
|----|---------------|---------------|
| 1. | <u>2</u> tens | <u>9</u> ones |
| 2. | <u>3</u> tens | <u>6</u> ones |
| 3. | <u>9</u> tens | <u>7</u> ones |
| 4. | <u>0</u> tens | <u>4</u> ones |
| 5. | <u>8</u> tens | <u>4</u> ones |
| 6. | <u>4</u> Tens | <u>9</u> ones |
| 7. | <u>7</u> Tens | <u>5</u> ones |

WEEK 2 LESSON 3

NB: Reading lesson

WEEK 2 LESSON 4

2

9

18

27

32

44

50

Number

Words

Match

18	Eighteen
48	Forty eight
14	fourteen
5	five
23	twenty three

WEEK 2 LESSON 5

1. Number

Words

33	<u>thirty three</u>
29	<u>twenty nine</u>
50	<u>fifty</u>
44	<u>forty four</u>
26	<u>twenty six</u>

2. Match

29	twenty nine
9	seventeen
32	thirty two
17	seventeen
40	fourty



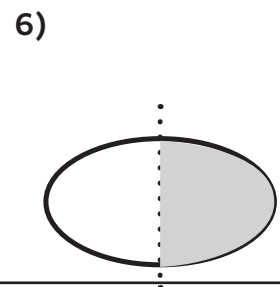
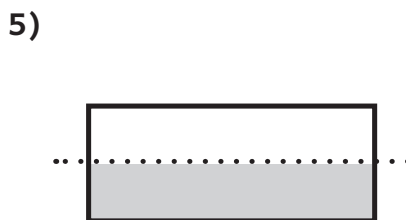
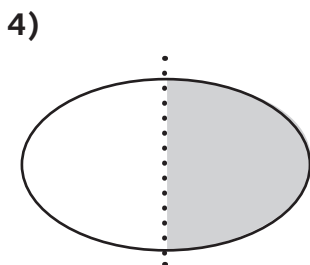
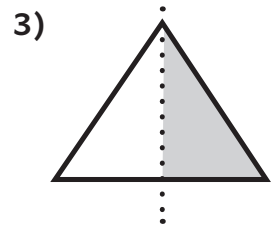
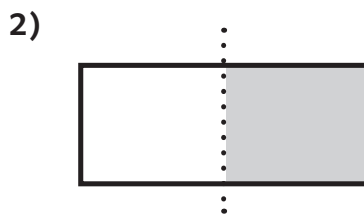
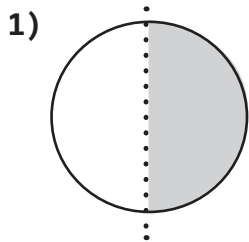
WEEK 3 LESSON 1

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

WEEK 3 LESSON 2

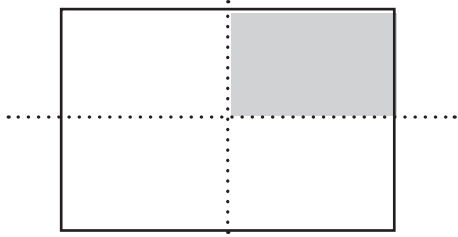
1. 97, 99
2. 84, 85
3. 70, 73, 76
4. 61, 66
5. 38, 40
6. 11, 9, 9

WEEK 3 LESSON 3

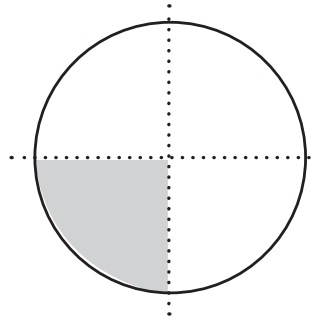


WEEK 3 LESSON 4

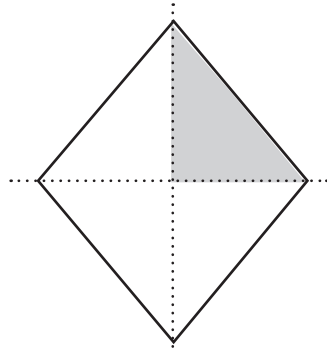
1.



2.



3.



WEEK 3 LESSON 5

1 a

2 b

3 b

WEEK 4 LESSON 1

1. $\frac{1}{2}$

2. $\frac{1}{2}$

3. 2

4. 5

5. 4

6. 6

7. 3

8. 5

9. 10



WEEK 4 LESSON 2

1. 997
2. 289
3. 677
4. 447
5. 798
6. 907
7. 347
8. 955
9. 345
10. 518

WEEK 4 LESSON 3

1. 791
2. 192
3. 552
4. 351
5. 623
6. 821
7. 231
8. 142
9. 882
10. 312

WEEK 4 LESSON 4

1. 339

2. 438

3. 958

4. 173

5. 868

6. 885

7. 963

8. 769

9. 175

10. 495

WEEK 4 LESSON 5

1. 391

2. 492

3. 391

4. 891

5. 709

6. 839

7. 297

8. 568

9. 918

10. 228

WEEK 5 LESSON 1

1. 10

2. 8

3. 9

4. 9

5. 6

6. 10

7. 9

8. 9

9. 8

10. 10



WEEK 5 LESSON 2

1. 459
2. 495
3. 498
4. 492
5. 398
6. 496
7. 358
8. 485
9. 499
10. 494

WEEK 5 LESSON 3

1. 474
2. 491
3. 492
4. 483
5. 303
6. 417
7. 483
8. 439
9. 593 party chairs
10. 315 kg

WEEK 5 LESSON 4

1. 200, 225
2. 335, 340
3. 475, 490
4. 400, 450
5. 375, 450

WEEK 5 LESSON 5

1. 22
2. 75
3. 41
4. 63
5. 13
6. 80
7. 91
8. 43
9. 20 pieces of soap
10. 81 chicken

WEEK 6 LESSON 1

1. 11
2. 17
3. 3
4. 10
5. 24
6. 22
7. 32
8. 15 girls
9. 45 books
10. 22 bags

WEEK 6 LESSON 2

- | | |
|-------|--------------|
| 1. 78 | 7. 82 |
| 2. 19 | 8. 39 |
| 3. 9 | 9. 7 rabbits |
| 4. 28 | 10. 25 eggs |
| 5. 56 | |
| 6. 69 | |

WEEK 6 LESSON 3

- | | |
|-------|---------------|
| 1. 25 | 5. 17 |
| 2. 6 | 6. 46 |
| 3. 29 | 7. 16 |
| 4. 8 | 8. 33 mangoes |
| | 9. 29 phones |



10. 66 bananas

WEEK 6 LESSON 4

1. 20
2. 10
3. 0
4. 10
5. 20
6. 30
7. 20
8. 20
9. 60 plates
10. 10 shirts

WEEK 6 LESSON 5

- | | |
|--------|------------------------|
| 1. 431 | 7. sh 832 |
| 2. 573 | 8. 521 long
trouser |
| 3. 521 | 9. 125 litres |
| 4. 713 | 10. 253 learners |
| 5. 513 | |
| 6. 714 | |

WEEK 7 LESSON: 1

1. 4, 2
2. 11, 8
3. 30, 20
4. 55, 50
5. 20, 10

WEEK 7 LESSON 2

- | | | |
|-----------------|--------------|----------------------|
| 1. $4 + 4$ | | 5. 2×7 |
| 2. 2×5 | | 6. $3 \times 7 = 21$ |
| 3. $5 + 5 + 5$ | 3×5 | 7. $2 \times 8 = 16$ |
| 4. $6 + 6 + 6$ | 3×6 | |

WEEK 7 LESSON 3

- | | |
|-------|--------|
| 1. 5 | 6. 25 |
| 2. 8 | 7. 36 |
| 3. 18 | 8. 35 |
| 4. 56 | 9. 32 |
| 5. 90 | 10. 40 |

WEEK 7 LESSON 4

- | | |
|--------|--------|
| 1. 20 | 6. 60 |
| 2. 30 | 7. 70 |
| 3. 40 | 8. 80 |
| 4. 50 | 9. 90 |
| 5. 100 | 10. 10 |



WEEK 7 LESSON 5

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

WEEK 8 LESSON 1

1. 4
2. 5
3. 5
4. 5
5. 4
6. $10 \div 5 = 2$
7. $12 \div 4 = 3$
8. $15 \div 3 = 5$
9. $14 \div 7 = 2$
10. $6 \div 2 = 3$

WEEK 8 LESSON 2

1. 4×5
2. $12 \div 3 = 4,$ $4 \times 3 = 12$
3. $12 \div 3 = 4,$
4. $25 \div 5 = 5,$
5. $10 \div 2 = 5,$
6. $15 \div 3 = 2,$
7. $8 \div 2 = 4,$

8. $20 \div 5 = 4,$

9. $20 \div 5 = 4,$

10. $8 \div 4 = 2,$

WEEK 8 LESSON: 3

Ensure that learners measure the lengths accurately. Guide this accordingly

WEEK 8 LESSON 4

Let learners to estimate the distances. Guide them accordingly to measure accurately. Guide the learners to relate the estimated and the actual distances. Mark accurate work.

WEEK 8 LESSON 5

Guide learners to measure and record the masses accurately.

WEEK 9 LESSON 1

Give the learners guidance as they estimate and measure mass.

WEEK 9 LESSON 2

14L, 5L, 8L.

WEEK 9 LESSON 3

Guide learners accordingly as they estimate, measure and make comparisons to establish accuracy.



WEEK 9 LESSON 4



WEEK 9 LESSON 5

1.



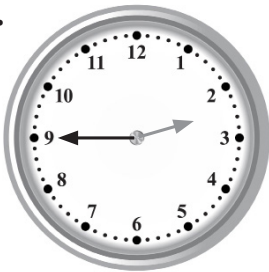
2.



3.



4.



WEEK 10 LESSON 1

1. a) 9 o'clock

b) 10 o'clock

c) 7 o'clock

d) 4 o'clock

2. a)



b)



c)



d)



WEEK 10 LESSON 2

1. a quarter past 6
2. a quarter past 4
3. a half past 10
4. a half past 3
5. a half past 2
6. 10 minutes past 4
7. 20 minutes past 2
8. half past 6

WEEK 10 LESSON 3

- A man
- people
- elephants
- house
- A Tower
- A court of arms
- A statue etc

WEEK 10 LESSON 4

1. sh. 550
2. sh 600
3. sh 700
4. sh 300



WEEK 10 LESSON 5

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

WEEK 11 LESSON 1

1. sh 400
2. sh 50
3. sh 75
4. sh 200
5. sh 70

WEEK 11 LESSON 2

1. Straight
2. Right
3. Right
1. Straight
2. Right

WEEK 11 LESSON 3

1. Left
2. Left
3. Left
4. Left
5. Straight

WEEK 11 LESSON 4

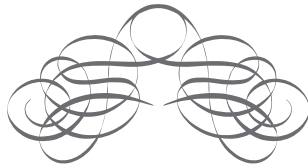
- A. Triangle
- B. Square
- C. Rectangle
- D. Circle
- E. Triangle

2. a) Curved b) Straight c) Curved
 Straight Straight Straight
- d) Curved e) Straight f) Curved
 Straing Straight Straight

3. a) Straight
 b) Straight
 c) Curved

WEEK 11 LESSON 5





TERM TWO



General Learning Outcome

Learners should demonstrate mastery of number concepts by working out problems in day to day life.

NUMBER CONCEPT

Time - 2 lessons

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 count numbers in symbols up to 100. In this sub strand, learners will be expected to apply previous knowledge acquired in identifying positions from 1 – 20. Learners will all be expected to play digital games using their LDD or any other IT devices.

Learners are expected to work in pairs or groups in order to learn from each other which would lead to the development of core competencies. The teacher should bring out 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 for example unity, respect, patriotism, responsibility among others. The teacher should also involve learners in non-formal activities including counting different types of items in their classroom. The teacher may also discuss how the number concept is linked to language, 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.

Week 1 Lesson 1

NUMBER CONCEPT

Position Names

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to use ordinal number names to identify position from 11 to 15.

Learning Resources

- Braille cards

Key Inquiry Question

How do you identify positions?

Learning Activities

1. Prepare 15 braille number cards with the ordinal number names and arrange them on the desk randomly, face down.
2. Ask learners to pick a card from the desk one at a time until they are finished. Ask the learners to say the positions of the learners picking the cards e.g. the first learner picked...
3. Ask learners to write in their names against the position number they have picked from the first, second, third up to fifteenth. Describe the animals in the following order for learners to identify their position: weaver bird, eagle, rat, chick, cock, hen, girraffe, cat, gazelle, elephant, dog, lion, buffalo, cow, sheep.
4. Guide learners to read the ordinal number names first, second, third up to fifteenth while emphasizing positions eleventh, twelfth, thirteenth, fourteenth and fifteenth.
5. Using the example in the learners book in the corresponding braille page, guide the learners to use ordinal number names to identify the positions.
6. Learners to play digital games involving ordinal numbers. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

- 1) Learners to work out questions from the Learner's book in the corresponding braille page.
- 2) Ask the learners to write the position of the animals according to the order in which they are mentioned.



NUMBER CONCEPT

Positions 1st to 15th

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to use ordinal number symbols to identify position from 11th to 15th.

Learning Resources

- Braille cards.
- Utencils

Key Inquiry Question

How do you identify positions?

Learning Activities

1. Provide 15 different types of utensils found at home. Also prepare 15 braille number cards with ordinal number names and corresponding number symbols. Guide learners in pairs or in groups to arrange the 15 picture cards from the right of their desks.
2. Learners to place number cards with ordinal number names first, second, third up to fifteenth on the utensils.
3. Guide learners to identify number cards with ordinal number symbols 1st , 2nd, 3rd up to 15th and read the symbols while placing emphasis on 11th, 12th, 13th, 14th and 15th.
4. Using the activity in the learners book in the corresponding braille page, guide the learners on how to use ordinal number symbols 1st, 2nd, 3rd up to 15th.
5. Learners to play digital games involving ordinal numbers. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the Learner's book in the corresponding braille page.

WHOLE NUMBERS

Time - 8 lessons

Background Information

In grade two learners covered the counting of numbers up to 100. They also identified place value of ones, tens and hundreds as well as reading and writing numbers in words.

In this sub strand these concepts are developed further. Learners will count up to 1000 and identify place value up to thousands. Learners will also make patterns and it is hoped that they will appreciate number patterns as they skip on the adapted number line. The teacher should guide learners in playing digital games related to the sub strand in school and outside school.

Learners are expected to work in pairs or groups in order to learn from each other which would lead to the development of core competencies. The teacher should bring out 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 for example unity, respect, patriotism, and responsibility among others. The teacher should also involve learners in non-formal activities including planting flowers following a pattern in the school compound. The teacher may also discuss how the whole number concept is linked to Language, Environmental, 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.



WHOLE NUMBERS

Counting in Fives

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to count in fives forward and backwards from 1 to 1000.

Learning Resources

- Braille number card
- Adapted number line

Key Inquiry Question

How do you count numbers?

Learning Activities

1. Guide learners in pairs or in groups to count objects in fives both forward and backwards.
2. Learners in groups to place Braille number cards on the groups to show number of objects in the group.
3. Using the activity in the learners book book in the corresponding braille page, guide the learners to count in fives forward and backwards from 1 to1000.
4. Learners to play digital games involving counting. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the Learner's book in the corresponding braille page

WHOLE NUMBERS

Place Value

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to identify the place value up to tens.

Learning Resources

- Bundles of sticks and loose sticks
- Spiked abacus
- Place value tins

Key Inquiry Question

How do you identify place value?

Learning activities

1. Guide learners in pairs or in groups to represent various numbers using bundles of sticks.
2. Ask learners in pairs or groups to identify ones and tens from the bundles of sticks and loose sticks.
3. Guide learners in pairs or groups to represent various numbers using place value apparatus and identify ones and tens.
4. Using the example in the learners book book in the corresponding braille page, guide the learners to identify place value up to tens.
5. Learners to play digital games involving place value. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners work out questions from learner's book in the corresponding braille page.



WHOLE NUMBERS

Place Value

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to identify place value up to hundreds.

Learning Resources

- Bundles of sticks
- Spiked abacus
- Loose sticks
- Place value tins

Key Inquiry Question

How do you identify place value?

Learning Activities

1. Guide learners in pairs or in groups to represent various numbers using bundles of sticks and loose sticks.
2. Learners in pairs or in groups to identify ones, tens and hundreds from the bundles of sticks and loose sticks.
3. Guide learners in pairs or groups to represent various numbers using place value apparatus and identify ones tens and hundreds.
4. Using the example in the learners book in the corresponding braille page , guide the learners in identifying place value of ones, tens and hundreds.
5. Learners to play digital games involving place value. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the Learner's book in the

corresponding braille page.

Week 2 Lesson 1

WHOLE NUMBERS

Reading Numbers

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to read numbers in symbols 1 to 100.

Learning Resources

- Braille cards
- Braille number charts

Key Inquiry Question

What do we use to represent groups of objects?

Learning Activities

1. Guide learners in pairs or in groups to read numbers in turns using the braille number chart.
2. Ask learners in pairs or groups to read numbers from braille number cards or braille cards.
3. Using the example in the learners book in the corresponding braille page , guide the learners in reading whole numbers 1 to 100.
4. Learners to play digital games involving reading whole numbers. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the Learner's book in the corresponding braille page



WHOLE NUMBERS

Reading Numbers in Words

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to read numbers 1 to 100 in words.

Learning Resources

- Braille number charts with number symbols and number names.
- Braille cards with number symbols
- Braille card with number name

Key Inquiry Question

How do we read numbers in words?

Learning Activities

1. Guide learners in pairs or groups to read numbers 1 to 100 in words.
2. Ask learners in pairs or groups to match number words with number symbols (1 to 100).
3. Using the example in the learners book in the corresponding braille page, guide the learners in reading numbers 1 to 100 in words.
4. Learners to play digital games involving reading numbers in words. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the Learner's book in the corresponding braille page.

WHOLE NUMBERS

Writing Numbers in Words

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to write numbers 1 to 100 in words.

Learning Resources

- Braille number charts with number symbols and number names
- Braille cards

Key Inquiry Question

How can numbers in symbols be written in words?

Learning Activities

1. Guide learners in pairs or in groups to write numbers 1 to 100 in words.
2. In pairs or groups, a learner displays braille cards with number symbols while others write the number name.
3. Using the example in the learners book in the corresponding braille page, guide learners in writing whole numbers 1 to 100 in words.
4. Learners to play digital games involving writing numbers in words. Provide learners with digital devices with embossed keyboard and voice out put.

Learner's work

Learners to work out questions from the Learner's book in the corresponding braille page



WHOLE NUMBERS

Number Patterns

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to work out missing numbers in number patterns involving numbers 1 to 500

Learning Resources

- Braille number charts
- Braille number cards
- Adapted number line

Key Inquiry Question

How do we identify missing numbers in number patterns?

Learning Activities

1. Guide learners in pairs or groups to arrange numbers using braille number cards in an increasing order 1 to 500 (from any point to a maximum of 10 numbers)
2. Guide learners to create a pattern by removing a card(s) and skipping one or more to the next. Learners to write the resulting pattern from activity two (2) and share with other groups.
3. Guide learners in pairs or in groups to arrange numbers using braille number cards in a decreasing order 500 to 1 (from any point to a maximum of 10 numbers)
4. Guide learners to create a pattern by removing a card(s) and skipping one or more to the next. Learners to write the resulting pattern and share with other groups.
5. Using the example in the learners book in the corresponding

braille page, guide the learners in identifying the missing numbers in a number pattern.

6. Learners to play digital games involving number patterns. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from learners' book in the corresponding braille page.

Week 2 Lesson 5

WHOLE NUMBERS

Number Patterns

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to work out missing numbers in number patterns involving numbers 1 to 1000.

Learning Resources

- Braille number charts
- Braille number cards
- Adapted number lines

Key Inquiry Question

How do we identify missing numbers in a pattern?

Learning Activities

1. Guide learners in pairs or in groups to arrange numbers using braille number cards in an increasing order 1to1000 (from any point to maximum of 10 numbers).
2. Guide learners to create a pattern by removing a card(s) and skipping one or more to the next. Learners to write the resulting pattern and share with other groups.
3. Guide learners in pairs or in groups to arrange numbers using



braille number cards in a decreasing order 1000 to 1 (from any point to maximum of 10 numbers).

4. Guide learners to create a pattern by removing a card(s) and skipping one or more to the next. Learners to write the resulting pattern and share with other groups.
5. Using examples in the learners book in the corresponding braille page , guide learners to work out missing numbers in a number pattern involving numbers 1 to 1000.
6. Learners to play digital games involving number patterns. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.

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FRACTIONS

Time - 4 lessons

Background Information

In this sub strand learners will be introduced to a fraction 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 ($\frac{1}{2}$), a quarter ($\frac{1}{4}$) and an eighth ($\frac{1}{8}$) 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, sticks, bottle tops or any other safe type of counter. Knowledge of division, sorting and grouping acquired in earlier grades will be useful in this sub strand.

Learners are expected to work in pairs or groups in order to learn from each other which would lead to the development of some of the

basic education curriculum core competencies. The teacher should bring out 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 for example unity, respect, patriotism and responsibility among others. The teacher should also involve learners in non-formal activities including sharing edible food items in halves and quarters in school. The teacher may also discuss how the concept on fractions is linked to Language 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



FRACTIONS

Eighth as Part of a Whole

Specific Lesson Learning Outcomes

By the end of the lesson the learner should be able to identify an eighth as part of a whole.

Learning Resources

- Manila cutouts
- pairs of scissors

Key Inquiry Question

How do we represent an eighth as part of a whole?

Learning Activities

1. Guide learners in pairs or in groups to cut rectangular cutouts. Discuss the safety measures when handling sharp objects.
2. Learners in pairs or groups to discuss how to get $\frac{1}{8}$ of a cutout.
3. Guide learners to fold the rectangular cutouts into 8 equal parts and identify one part as a $\frac{1}{8}$ of the whole. Learners with blindness could work with sighted guides accompanied by verbal instructions.
4. Using the example in the learner's book in the corresponding braille page, guide learners to identify $\frac{1}{8}$ as part of a whole.
5. Learners to play digital games involving fractions. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the Learner's book in the corresponding braille page.

FRACTIONS

Comparing a Quarter and an Eighth

Specific Lesson Learning Outcome

By the end of the lesson the learners should be able to compare a quarter and an eighth as part of a whole.

Learning Resources

- Manila cutouts,
- Pair of scissors.

Key Inquiry Question

How do we compare $\frac{1}{4}$ and $\frac{1}{8}$ as part of a whole?

Learning activities

1. Guide learners in pairs and in groups to cut circular and rectangular cut outs. Discuss on safety measures when handling the sharp objects.
2. Learners to discuss how to get a quarter and an eighth as part of a whole using the cut-outs prepared in activity one (1).
3. Guide learners to fold circular and rectangular cutouts into 4 and 8 equal parts and identify a quarter and an eighth as part of whole.
4. Using the examples in the learner's book in the corresponding braille page, guide learners to identify and compare a quarter and an eighth as part of a whole.
5. Learners to play digital games involving fractions. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.



FRACTIONS

Quarter as Part of a Group

Specific Lesson Learning Outcome

By the end of the lesson the learner should be able to identify a quarter as part of a group.

Learning Resources

- Bottle tops,
- sticks

Key Inquiry Question

How do we identify a quarter of a group?

Learning activities

1. Demonstrate the sharing of bottle tops into four equal groups. Guide learners to identify one group as a quarter of the whole group.
2. Group learners in fours. Give each group a number of counters and let them share the bottle tops equally.
3. Guide the learners to identify that one group of the four groups represents a quarter of the group. Provide learners with objects for the activities.
4. Using the example on the learner's book in the corresponding braille page, guide learners to identify quarter as part of a group.
5. Learners to play digital games involving fractions. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

- Learners to work out questions from the learner's book in the corresponding braille page.
- Provide learners with a group of 8 objects and mark 2 out of the 8.
- Provide learners with 8 triangles and 16 rectangular shapes to identify a quarter.

FRACTIONS

Eight as Part of a Group

Specific Lesson Learning Outcome

By the end of the lesson the learner should be able to identify an eighth as part of a group.

Learning Resources

- Bottle tops,
- Sticks.

Key Inquiry Question

How do we represent an eighth of a group?

Learning activities

1. Demonstrate the sharing of bottle tops into eight equal groups. Guide learners to identify one group as an eighth of the whole group.
2. Group learners in eights. Give each group a number of counters and let them share the bottle tops equally.
3. Guide the learners to identify that one group of the eight groups represents an eighth of the group.
4. Using the example on the learner's book in the corresponding braille page, guide learners to identify an eighth as part of a group.
5. Learners to play digital games involving fractions. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page



ADDITION

Time - 9 lessons

Background Information

Addition of up to two 2-digit numbers with and without regrouping has already been covered in the previous grades. 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 3-digit numbers with single regrouping in ones or tens. The concept of number patterns involving addition is also extended to 1000. The teacher can search for digital games that involve addition and guide the learners in playing them.

Learners are expected to work in pairs or groups in order to learn from each other which would lead to the development of core competencies. The teacher should bring out 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 for example unity, respect, patriotism and responsibility among others. The teacher should also involve learners in non-formal activities including planting flowers in patterns in school. The teacher may also discuss how the addition concept is linked to Languages and Hygiene and Nutrition 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.

Week 3 Lesson 5

ADDITION

Adding a 3- digit number to 2- digit number

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to add a 3- digit number to 2- digit number without regrouping vertically with sum not exceeding 1000.

Learning Resources

- Place value tins
- Spiked abacus

Key Inquiry Question

How do we add a 3-digit number to a 2-digit number?

Learning Activities

1. Guide learners in groups to use the place value apparatus in adding a 3 digit number to a 1- digit number without regrouping. Discuss the safety precautions when handling the resource materials.
2. Guide learners in groups to discuss how to add a 3- digit number to a 2- digit number without regrouping vertically with sum not exceeding 1000.
3. Using examples in the learner's book in the corresponding braille page, guide the learners to add a 3- digit number to a 2- digit number without regrouping.
4. Learners to play digital games involving addition. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the Learner's book in the corresponding braille page.



ADDITION

Adding a 3- digit number to 2- digit number

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to add a 3- digit number to 2- digit number without regrouping horizontally with sum not exceeding 1000

Learning Resources

- Place value tins
- Spiked abacus

Key Inquiry Question

How do we add a 3- digit number to a 2- digit?

Learning Activities

1. Guide learners in groups to use the place value apparatus in adding a 3 digit number to a 2- digit number without regrouping. Discuss the safety precautions when handling the resource materials.
2. Guide learners in groups to discuss how to add a 3- digit number to a 2- digit number without regrouping horizontally with sum not exceeding 1000.
3. Using examples in the learner's book in the corresponding braille page, guide the learners to add a 3- digit number to a 2- digit number horizontally without regrouping.
4. Learners to play digital games involving addition. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the Learner's book in the corresponding braille page.

ADDITION

Adding a 3- Digit Number to a 2- Digit Number

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to add a 3- digit number to a 2- digit number with regrouping from ones vertically and horizontally with sum not exceeding 1000.

Learning Resources

- Place value tins
- Spiked abacus.

Key Inquiry Question

How do we add a 3-digit number to a 2-digit number involving regrouping?

Learning Activities

1. Guide learners in groups to use the place value apparatus in adding a 3 digit number to a 2- digit number with regrouping from ones with sum not exceeding 1000. Discuss the safety precautions when handling the resource materials.
2. Guide learners in groups to discuss how to add a 3- digit number to a 2- digit number with regrouping from ones vertically and horizontally with sum not exceeding 1000.
3. Using examples to in the learner's book in the corresponding braille page, guide learners to add a 3- digit number to a 2- digit number vertically and horizontally with regrouping with sum not exceeding 1000.
4. Learners to play digital games involving addition. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the Learner's book in the corresponding braille page.



ADDITION

Adding a 3- digit number to 2- digit number

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to add a 3- digit number to a 2- digit number with regrouping from tens vertically with sums not exceeding 1000.

Learning Resources

- Place value tins
- Spiked abacus

Key Inquiry Question

How do you add numbers involving regrouping?

Learning Activities

1. Guide learners in groups to use the place value apparatus in adding a 3 digit number to a 2- digit number with regrouping from tens vertically with sums not exceeding 1000. Discuss the safety precautions when handling the resource materials.
2. Guide learners in groups to discuss how to add a 3- digit number to a 2- digit number with regrouping from tens vertically with sum not exceeding 1000.
3. Using examples in the learner's book in the corresponding braille page,, guide learners to add a 3- digit number to a 2- digit number with regrouping from tens vertically with sums not exceeding 1000.
4. Learners to play digital games involving addition. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the Learner's book in the corresponding braille page.

ADDITION

Adding 3-Single Digit Numbers

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to add 3-single digit numbers with sum not exceeding 20.

Learning Resources

- Bottle tops
- Sticks
- Grains
- Adapted number line

Key Inquiry Question

How do we add 3 single digit numbers?

Learning Activities

- 1) Guide learners in pairs or in groups to discuss how to add 3-single digit numbers with sum not exceeding 20 using concrete objects. Discuss the safety precautions when handling the resources and materials.
- 2) Ask learners in pairs to discuss how to add 3- single digit numbers.
- 3) Using examples in the learner's book in the corresponding braille page, guide learners to add 3-single digit numbers with sum not exceeding 20.
- 4) Learners to play digital games involving addition. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the Learner's book in the corresponding braille page.



ADDITION

Adding two 3- digit numbers

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to add two 3- digit numbers vertically and horizontally without regrouping with sum not exceeding 1000.

Learning Resources

- Place value tins
- Spiked abacus

Key Inquiry Question

How do we add two 3-digit numbers?

Learning Activities

- 1) Guide learners in pairs or groups to use place value apparatus to add two 3- digit numbers without regrouping with sum not exceeding 1000. Discuss the safety precautions when handling the resource materials.
- 2) Guide learners in pairs or groups to discuss how to add two 3- digit numbers vertically and horizontally without regrouping with sum not exceeding 1000.
- 3) Using examples in the learner's book in the corresponding braille page, guide learners to add two 3- digit numbers vertically and horizontally without regrouping with sum not exceeding 1000.
- 4) Learners to play digital games involving addition. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the Learner's book in the corresponding braille page.

ADDITION

Adding two 3- digit numbers

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to add two 3- digit numbers with regrouping from ones vertically and horizontally with sum not exceeding 1000.

Learning Resources

- Place value tins
- Spiked abacus

Key Inquiry Question

How do we add two 3-digit numbers with regrouping?

Learning Activities

1. Guide learners in pairs or groups to use place value apparatus to add two 3- digit numbers with regrouping from ones with sum not exceeding 1000. Discuss the safety precautions when handling the resources and materials.
2. Learners in pairs to discuss how to add two 3 digit numbers with regrouping from ones vertically and horizontally with sum not exceeding 1000.
3. Using examples in the learner's book in the corresponding braille page, guide learners to add two 3- digit numbers vertically and horizontally with regrouping from ones with sum not exceeding 1000.
4. Learners to play digital games involving addition. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the Learner's book in the corresponding braille page.



ADDITION

Adding two 3- digit numbers

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to add two 3- digit numbers with regrouping from tens vertically and horizontally with sum not exceeding 1000.

Learning Resources

- Place value tins
- Spiked abacus

Key Inquiry Question

How do we add numbers with regrouping?

Learning Activities

1. Guide learners in pairs or groups to use place value apparatus to add two 3- digit numbers with regrouping from tens with sum not exceeding 1000. Discuss the safety precautions when handling the resources and materials.
2. Learners in pairs to discuss how to add two 3 digit numbers with regrouping from tens vertically and horizontally with sum not exceeding 1000.
3. Using examples in the learner's book in the corresponding braille page, guide learners to add two 3- digit numbers vertically and horizontally with regrouping from tens with sum not exceeding 1000.
4. Learners to play digital games involving addition. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the Learner's book in the corresponding braille page.

ADDITION

Number patterns

Specific Lesson Learning Outcome

By the end of the lesson the learner should be able to work out missing numbers in number patterns up to 1000 involving addition.

Learning Resources

- Braille number Boards/Braille number grids
- Adapted number lines
- Braille hundred charts

Key Inquiry Question

How do we work out missing numbers in number patterns?

Learning Activities

1. Guide learners in pairs or in groups to use braille hundreds chart or braille number charts/number boards to form number patterns
Discuss the importance of social cohesion as learners work in groups.
2. Discuss with learners how to work out missing numbers in number patterns up to 1000 involving addition.
3. Using examples in the learner's book in the corresponding braille page, guide learners to work out missing numbers in number patterns up to 1000 involving addition.
4. Learners to play digital games involving addition. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the Learner's book in the corresponding braille page



SUBTRACTION

Time - 8 lessons

Background Information

Subtraction was introduced in earlier grades as taking away. In grade two, subtraction of up to 2-digit numbers without regrouping was covered. The relationship between addition and subtraction as well as number pattern involving subtraction is also covered in grade two. It is on this pre-requisite that the concept of subtraction of up to 3-digit numbers is developed. Missing numbers in patterns involving subtraction of up to 1000 will also be taught under this sub strand.

Learners are expected to work in pairs or groups in order to learn from each other which would lead to the development of core competencies. The teacher should bring out 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 for example unity, respect, patriotism and responsibility, among others. The teacher should also involve learners in non-formal activities including 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 activities organized by community members as a way of promoting learning outside the school.

Week 5 Lesson 4

SUBTRACTION

Subtracting two 2-digit numbers

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to subtract two 2-digit numbers vertically and horizontally without regrouping.

Learning Resources

- Spiked abacus
- Place value fins
- Pocket boards
- Braille hundred charts

Key Inquiry Question

How do we subtract two 2-digit numbers?

Learning Activities

1. Guide learners in pairs or in groups to use place value apparatus in subtracting two 2-digit numbers without regrouping. Discuss the safety precautions when handling resources and materials.
2. Learners in pairs to discuss and come up with different ways of subtracting two 2-digit numbers without regrouping
3. Using examples in the Learner's book in the corresponding braille page, guide learners to subtract two 2-digit numbers without regrouping.
4. Learners to play digital games involving subtraction. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the Learner's book in the corresponding braille page.

Week 5 Lesson 5

SUBTRACTION

Subtracting a single digit number from a 3-digit number

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to subtract a single digit number from a 3-digit number without regrouping.

Learning Resources



- Spiked abacus
- Place value tins
- Pocket boards
- Braille hundred charts

Key Inquiry Question

How do we subtract a single digit number from a 3-digit number?

Learning Activities

1. Guide learners in pairs or in groups to use place value apparatus in subtracting a 1-digit number from a 3-digit number without regrouping. Discuss the safety precautions when handling resources and materials.
2. Learners in pairs to discuss and come up with different ways of subtracting a 1-digit number from a 3-digit number without regrouping.
3. Using examples in the Learner's book in the corresponding braille page, guide learners to subtract a 1- digit number from a 3-digit number without regrouping.
4. Learners to play digital games involving subtraction. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the Learner's book in the corresponding braille page.

SUBTRACTION

Subtracting two 2-digit numbers

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to subtract two 2-digit numbers with regrouping.

Learning Resources

- Spiked abacus
- Place value tins
- Pocket boards
- Braille hundreds charts

Key Inquiry Question

How do we subtract two 2-digit numbers with regrouping?

Learning Activities

1. Guide learners in pairs or in groups to use place value apparatus in subtracting two 2-digit numbers with regrouping. Discuss the safety precautions when handling resources and materials.
2. Learners in pairs to discuss and come up with different ways of subtracting two 2-digit numbers with regrouping
3. Using examples in the Learner's book in the corresponding braille page, guide learners to subtract two 2-digit numbers with regrouping.
4. Learners to play digital games involving subtraction. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the Learner's book in the corresponding braille page.



SUBTRACTION

Subtracting a 1-digit number from a 3-digit number

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to subtract a 1-digit number from a 3-digit number with regrouping.

Learning Resources

- Space abacus
- Place value tins
- Pocket boards
- Braille hundreds charts

Key Inquiry Question

How do we subtract a 1-digit number from a 3-digit number with regrouping?

Learning Activities

1. Guide learners in pairs or in groups to use place value apparatus in subtracting a 1-digit number from a 3-digit number with regrouping. Discuss the safety precautions when handling resources and materials.
2. Learners in pairs to discuss and come up with different ways of subtracting a 1-digit number from a 3-digit number with regrouping.
3. Using examples in the Learner's book in the corresponding braille page, guide learners to subtract a 1-digit number from a 3-digit number with regrouping.
4. Learners to play digital games involving subtraction. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.

Week 6 Lesson 3

SUBTRACTION

Subtracting two 3-digit numbers

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to subtract two 3-digit numbers without regrouping.

Learning Resources

- Spiked abacus
- Place value tins
- Pocket boards
- Braille hundreds charts

Key Inquiry Question

How do we subtract two 3-digit numbers without regrouping?

Learning Activities

1. Guide learners in pairs or in groups to use place value apparatus in subtracting two 3-digit numbers without regrouping. Discuss the safety precautions when handling resources and materials.
2. Learners in pairs to discuss and come up with different ways of subtracting two 3-digit numbers without regrouping
3. Using examples in the Learner's book in the corresponding braille page, guide learners to subtract two 3-digit numbers without regrouping.
4. Learners to play digital games involving subtraction. Provide learners with digital devices with embossed keyboard and voice



out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page

Week 6 Lesson 4

SUBTRACTION

Subtracting a 2-digit number from a 3-digit number

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to subtract a 2-digit number from a 3-digit number with regrouping

Learning Resources

- Spiked abacus
- Place value tins
- Pocket boards
- Braille hundreds charts

Key Inquiry Question

How do we subtract numbers with regrouping?

Learning Activities

1. Guide learners in pairs or in groups to use place value apparatus in subtracting a 2-digit number from a 3-digit number with regrouping. Discuss safety precautions when handling resources and materials.
2. Learners in pairs to discuss and come up with different ways of subtracting a 2-digit number from a 3-digit number with regrouping.
3. Using examples in the Learner's book in the corresponding braille page, guide learners to subtract a 2-digit number from a 3-digit number with regrouping.

4. Learners to play digital games involving subtraction. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page

Week 6 Lesson 5

SUBTRACTION

Subtracting multiples of 10

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to subtract multiples of 10 up to 1000 without regrouping.

Learning Resources

- Spiked abacus
- Place value tins
- Pocket boards
- Braille hundreds charts

Key Inquiry Question

How do we subtract multiples of 10?

Learning Activities

1. Guide learners in pairs or in groups to use place value apparatus in subtracting multiples of 10 up to 1000 without regrouping. Discuss safety precautions when handling resources and materials.
2. Learners in pairs to discuss and come up with different ways of subtracting multiples of 10 up to 1000 without regrouping.
3. Using examples in the Learner's book in the corresponding braille page, guide learners to subtract multiples of 10 up to 1000 without regrouping.



4. Learners to play digital games involving subtraction. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page. Provide learners with counter in groups to write in multiplication counter x 3

SUBTRACTION

Number patterns

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to work out missing numbers in number patterns up to 1000 involving subtraction.

Learning Resources

- Braille number Boards/Number grids
- Adapted number-line
- Braille hundreds charts

Key Inquiry Question

How do we work out missing numbers in number patterns?

Learning Activities

1. Guide learners in pairs or in groups to use braille hundreds chart or braille number charts/number boards to form number patterns. Discuss the importance of social cohesion as learners work in groups.
2. Discuss with learners how to work out missing numbers in number patterns up to 1000 involving subtraction.
3. Using examples in the learner's book in the corresponding braille page, guide learners to work out missing numbers in number patterns up to 1000 involving subtraction.
4. Learners to play digital games involving number patterns. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page. Provide learners with counters in groups to write in multiplication for example 5 counters x 3



MULTIPLICATION

Time - 4 lessons

Background Information

Multiplication is introduced in grade two 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. It is hoped that the teachers will use equal groups of objects a number of times to relate repeated addition with multiplication sentences.

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.

Learners are expected to work in pairs or groups in order to learn from each other which would lead to the development of core competencies. The teacher should bring out 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 for example 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

MULTIPLICATION

Multiplying Single digit Numbers by 1 to 10

Specific Lesson Learning Outcomes

By the end of the lesson, the learner should be able to multiply single digit numbers by 1 to 10 through repeated addition up to 5 times.

Learning Resources

- Counters

Key Inquiry Question

How do we multiply using repeated addition?

Learning Activities

1. Guide learners in pairs or in groups to use counters in multiplying single digit numbers by 1 to 10 using repeated addition up to 5 times. Discuss the safety precautions when handling resources and materials.
2. Learners in pairs to discuss and come up with different ways of multiplying single digit numbers by 1 to 10 using repeated addition up to 5 times.
3. Using examples in the Learner's book in the corresponding braille page, guide learners to multiply single digit numbers by 1 to 10 using repeated addition up to 5 times. Provide learners with counters to carry out the activity.
4. Learners to play digital games involving multiplication. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page



MULTIPLICATION

Multiplying Numbers Up to 5 x 5

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to multiply numbers up to 5 x 5.

Learning Resources

- Tactile/ braille Multiplication table
- counters

Key Inquiry Question

How do we multiply numbers?

Learning activities

1. Guide learners in pairs or in groups to use braille multiplication table or counters in multiplying numbers up to 5 x 5. Discuss the safety precautions when handling resources and materials.
2. Learners in pairs to discuss and come up with different ways of multiplying numbers up to 5 x5. Provide learners with digital devices with embossed keyboard and voice out put.
3. Using examples in the Learner's book in the corresponding braille page, guide learners to multiply numbers up to 5 x5.
4. Learners to play digital games involving multiplication. Provide learners with digital devices with embossed keyboard and voice out put. Provide learners with counter in groups to write in multipicals for example 3 counters x 4

Work to do

Learners to work out questions from the learner's book in the corresponding braille page. Provide learners with counters in groups to write in multiplication for example 3 counters x 4

Week 7 Lesson 4

MULTIPLICATION

Multiplying 6

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to multiply 6 by numbers 1 to 10.

Learning Resources

- Tactile/braille multiplication table
- counters

Key Inquiry Question

How do we multiply numbers?

Learning activities

1. Guide learners in pairs or in groups to use braille multiplication table or counters in multiplying 6 by numbers 1 to 10. Discuss the safety precautions when handling resources and materials.
2. Learners in pairs to discuss and come up with different ways of multiplying 6 by numbers 1 to 10. Provide learners with counters to carry out the activity.
3. Using examples in the learner's book in the corresponding braille page, guide learners to multiply 6 by numbers 1 to 10.
4. Learners to play digital games on multiplication. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do



Learners to work out questions from the learner's book in the corresponding braille page.

Week 7 Lesson 5

MULTIPLICATION

Multiplying 7

Specific Lesson Learning Outcomes

By the end of the lesson, the learner should be able to multiply 7 by numbers 1 to 10.

Learning Resources

- Tactile/Braille multiplication table
- counters

Key Inquiry Question

How do we multiply numbers?

Learning Activities

1. Guide learners in pairs or in groups to use multiplication table or counters in multiplying 7 by numbers 1 to 10. Discuss the safety precautions when handling resources and materials.
2. Learners in pairs to discuss and come up with different ways of multiplying 7 by numbers 1 to 10. Provide learners with counters to carry out the activity.
3. Using examples in the learner's book in the corresponding braille page, guide learners on how to multiply 7 by numbers 1 to 10.
4. Learners to play digital games on multiplication. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page

DIVISION

Time - 3 lessons

Background Information

Division is taught for the first time in this grade. However, it is not a new concept as learners have had experiences in their day to day life or even during play. Division is introduced as repeated subtraction hence it is important for the learners to have mastered subtraction of whole numbers. In this sub strand the relationship between multiplication and division will be taught and the learners will be expected to use the multiplication table to get the result of division questions as division is the inverse of multiplication. Digital games involving division will enhance the development of this concept.

Learners are expected to work in pairs or groups in order to learn from each other which would lead to the development of core competencies. The teacher should bring out 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 for example unity, respect, patriotism and responsibility among others. The teacher should also involve learners in non-formal activities including planting seedlings in rows in the school compound. The teacher may also discuss how the division concept is linked to Languages and Environmental activities. Learners could visit children's homes and share fruits with them as a way of giving back to the community.

Week 8 Lesson 1

DIVISION



Dividing numbers up to 25

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to divide numbers up to 25 based on basic multiplication facts.

Learning Resources

- Braille multiplication table
- Counters

Key Inquiry Question

How do we divide numbers?

Learning Activities

1. Guide learners in pairs or in groups to use braille multiplication table or counters in dividing numbers up to 25 on basic multiplication facts. Discuss the safety precautions when handling resources and materials.
2. Learners in pairs or groups to discuss and come up with different ways of dividing numbers up to 25 on basic multiplication facts
3. Using examples in learner's book in the corresponding braille page, guide learners to divide numbers up to 25 on basic multiplication facts.
4. Learners to play digital games involving division. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.

DIVISION

Dividing numbers up to 90 by 6, 7, 8 and 9

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to divide numbers up to 90 by 6, 7, 8 and 9 using braille multiplication table.

Learning Resources

- Braille multiplication table
- counters

Key Inquiry Question

How do we use braille multiplication table to work out division?

Learning Activities

1. Learners to identify the number to be divided in the braille multiplication table.
2. Learners move horizontally from the number to be divided along the row to the end and vertically along the column to the end to identify the two numbers.
3. Guide learners to relate the two numbers identified in activity two (2) to division
4. Using the example in the learner's book in the corresponding braille page, guide learners to divide numbers up to 90 by 6,7,8 and 9.
5. Learners to play digital games on division. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.



DIVISION

Dividing numbers up to 90 by 6, 7, 8 and 9 by long division

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to divide numbers up to 90 by 6, 7, 8 and 9 using braille multiplication tables.

Learning Resources

- Braille multiplication table
- Counters
- Types and taylor frames
- Cubes and cuberithims

Key Inquiry Question

How do we use the multiplication table to work out division questions?

Learning Activities

1. Guide learners to write the division question in long division form.
2. Using the braille multiplication table, guide learners to identify how many times the number dividing goes into the number being divided.
3. Guide learners to write the number found, on top of the last digit of the number being divided and complete the division.
4. Using the example in the learner's book in the corresponding braille page , guide learners to divide numbers up to 90 by 6, 7, 8 and 9 using braille multiplication tables.
5. Learners to play digital games in division. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the Learner's book in the corresponding braille page.

General Learning Outcome

By the end of Early Years Education, the learner should be able to describe properties of geometric shapes and spatial relationships in real life experiences.

LENGTH

Time - 2 lessons

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 involved in measuring length in metres. The learners will also be expected to be able to estimate lengths up to 20 metres hence they should be involved in many measuring activities for them to be able to estimate.

Learners are expected to work in pairs or groups in order to learn from each other which would lead to the development of core competencies. The teacher should bring out 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 for example unity, respect, patriotism and responsibility, among others. The teacher should also involve learners in non-formal activities including 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/rabbit cages, among others, as a way of promoting learning outside the classroom.

LENGTH

Adding and Subtracting Length

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to add and subtract length in metres.

Learning Resources

- Tactile metre rule
- 1 Metre sticks
- 5 Metre Strings

Key Inquiry Question

How do we add and subtract length in metres?

Learning Activities

1. Learners in pairs or in groups to measure lengths of the four walls of their classroom and record. Ask learners to add the lengths and share their experiences with other groups. Discuss the safety precautions when using resources and materials. Learners with blindness could work with sighted guides accompanied with verbal instructions.
2. Guide learners to measure the length of a string in metres and record. Ask learners to cut off a number of metres from the string. Ask learners to measure the length of the string that is left after cutting in activity three (3).
3. Using the example in the learners book in the corresponding braille page , guide learners to add and subtract length in metres.
4. Learners to play digital games involving length. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.

LENGTH

Estimating Length

Specific Lesson Learning Outcome

By the end of lesson, the learner should be able to estimate length up to 20 metres.

Learning Resources

- Tactile metre ruler
- 1-metre sticks
- Strings marked in metres

Key Inquiry Question

How do we confirm an estimated length?

Learning Activities

1. Guide learners to estimate length by walking around or touching the objects up to 20 metres and record.
2. Guide learners in pairs or groups to measure length estimated in activity one (1) and record next to the estimates. Discuss the safety precautions when using resources and materials. Learners with blindness could work with sighted guides accompanied with verbal instructions.
3. Learners in pairs discuss how close the estimates were to the measured length and share with other groups.
4. Using the activities in the learner's book in the corresponding braille page, guide learners to estimate and measure length up to 20 metres.
5. Learners to play digital games involving length. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page. Learners with blindness could work with sighted guide to estimate and measure length.



MASS

Time - 3 lessons

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 involved in measuring mass in kilograms and also in adding and subtracting mass in kilograms. The learners will also be expected to be able to estimate mass up to 5 kilograms hence they should be involved in many measuring activities using a beam balance or measuring scale for them to be able to estimate.

Learners are expected to work in pairs or groups in order to learn from each other which would lead to the development of some of core competencies. The teacher should bring out 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 for example unity, respect, patriotism and responsibility among others. The teachers should involve learners in non-formal activities including measuring mass of items in their classroom in kilograms during their free time. The teacher may also discuss how the mass concept is linked to Languages and Environmental activities. Learners to assist their neighbours in measuring mass of items in their homes in kilograms as a way of promoting learning outside the classroom.

MASS

Adding Mass in Kilograms

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to add mass in kilograms.

Learning Resources

- Items of different masses
- Measuring chart, beam balance.

Key Inquiry Question

How do we add mass in kilograms?

Learning Activities

1. Learners in pairs or groups are provided with packets of different items with their masses indicated braille in kilograms.
2. Learners in pairs or groups to put together packets and state the total mass. Learners to share their experiences with other groups. Discuss the safety precautions when using resources and materials.
3. Using the example in the learner's book in the corresponding braille page, guide learners to add mass in kilograms in real life situations.
4. Learners to play digital games involving mass. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.



MASS

Subtracting Mass in Kilograms

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to subtract mass in kilograms in real life situations.

Learning Resources

- Sand/soil of different masses
- Talking bean balance
- Measuring scale.

Key Inquiry Question

How do we subtract mass in kilograms?

Learning Activities

1. Learners in pairs or groups are provided with sand/soil of different masses in 1 kilogram packets. Discuss the safety precautions when using resources and materials.
2. Learners in pairs or groups are guided to take away some packets of sand/soil in activity one (1). Learners record the mass of the packets that remains. Learners in pairs share their experiences with other groups.
3. Using the example in the learner's book in the corresponding braille page, guide learners to subtract mass in real life situation.
5. Learners to play digital games involving mass. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners work out questions from the learner's book in the corresponding braille page.

MASS

Estimating Mass

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to estimate mass use a 5 kilogram mass to compare other masses.

Learning Resources

- Beam balance
- Objects with different masses

Key Inquiry Question

How do we use given mass to compare other masses?

Learning Activities

1. Guide learners in pairs or in groups to estimate and record mass of different objects up to 5 kilograms.
2. Learners in pairs or groups measure mass of different objects and record alongside the estimates. Ask learners to discuss how close the estimates were to measured mass. Learners with blindness could work with sighted guides accompanied with verbal instructions.
3. Using the activity in the learner's book in the corresponding braille page, guide learners to estimate mass up to 5 kilograms.
4. Learners to play digital games involving mass. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page. Learners with blindness could work with sighted guide to estimate and measure mass.



CAPACITY

Time - 3 lessons

Background Information

The development of the concepts under measurements follows 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 involved in measuring capacity in litres and also in adding and subtracting capacity in litres. The learners should be involved in a variety of measuring activities using a 1- litre container for them to be able estimate capacity up to 5 litres.

Learners are expected to work in pairs or groups in order to learn from each other which would lead to the development of core competencies. The teacher should bring out 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 for example unity, respect, patriotism and responsibility among others. The teacher should involve learners in non-formal activities including 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 in measuring capacity of containers used for storing liquids

Week 9 Lesson 4

CAPACITY

Adding Capacity in Litres

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to add capacity in real life situations.

Learning Resources

- 1 litre containers
- Water

Key Inquiry Question

How do we add capacity in real life?

Learning Activities

1. Guide learners in pairs or groups to measure the capacity of two different containers. Discuss the safety precautions when using resources and materials.
2. Learners in pairs or groups to combine the water in the different containers and measure the resulting amount. Learners with blindness could work with sighted guides accompanied with verbal instructions. Learners discuss in pairs their experiences with other groups.
3. Using the activity in the learner's book in the corresponding braille page, guide learners to add capacity in litres in real life situations .
4. Learners to play digital games involving capacity. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page

Week 9 Lesson 5

CAPACITY

Subtracting Capacity in Litres

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to subtract capacity in litres in real life situations.

Learning Resources



- 1 litre containers
- Water

Key Inquiry Question

How do we subtract capacity in litres?

Learning Activities

1. Learners in pairs or groups to measure the capacity of two different containers. Discuss the safety precautions when using resources and materials.
2. Learners in pairs or groups to remove some litres of water from containers in activity one (1) and pour it in another container. Learners with blindness could work with sighted guides accompanied with verbal instructions.
3. Learners measure the amount of water in containers in activity two (2) and record. Let learners share their experiences.
4. Using the example in the learner's book in the corresponding braille page , guide learners to subtract of capacity litres in real life situations.
5. Learners to play digital games involving capacity. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.

CAPACITY

Estimating Capacity

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to estimate capacity up to 5 litres.

Learning Resources

- 1 litre containers
- Containers of different capacities
- Water

Key Inquiry Question

How do we estimate capacity?

Learning Activities

1. Guide learners in pairs or in groups to estimate and record capacity of different containers up to 5 litres.
2. Provide jug, bucket, bottle, flask, sufuria, kettle, basin, in the order.
3. Learners in pairs or groups measure capacity of different containers and record alongside the estimates. Learners with blindness could work with sighted guides accompanied with verbal instructions. Ask learners to discuss how close the estimates were to measured capacity.
4. Using the activity in the learner's book in the corresponding braille page, guide learners to estimate capacity up to 5 litres.
5. Learners to play digital games involving capacity. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page. Learners with blindness could work with sighted guide to estimate capacity in litres.

TIME

Time - 4 lessons

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 which include hours, minutes and seconds. In this sub strand, reading and telling of time involves both the analogue and digital clocks. When dealing with addition and subtraction of units of time, the teacher should bring out real life experiences in which duration of time can be comprehended. Estimation of time is an important aspect in day to day life hence learners should be involved in estimating time durations.

Learners are expected to work in pairs or groups in order to learn from each other which would lead to the development of core competencies. The teacher should bring out 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 for example unity, respect, patriotism and responsibility among others. The teacher should involve learners in non-formal activities including cleaning their classroom during free time. The teacher may also discuss how the time concept is linked to Language activities and Religious activities. As a form of community service learning activity learners could assist their neighbours in keeping their compounds clean during school holidays.

TIME

Reading and Telling Time “to” the Hour

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to read and tell time “to” the hour using the tactile clock face.

Learning Resources

- Tactile clock face

Key Inquiry Question

How do we read time “to” the hour?

Learning Activities

1. Guide learners in pairs or group to read and tell time “to” the hour.
2. Learners in pairs or groups mark different times on their tactile clock face and read and tell marked time “to” the hour.
3. Using the examples in the learner’s book in the corresponding braille page, guide learners to read and tell time “to” the hour.
4. Learners to play digital games involving time. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner’s book in the corresponding braille page.

TIME

Reading and Telling Time Using a Digital Clock

Specific lesson Learning outcome

By the end of the lesson, the learner should be able to read and tell time using a digital clock.



Learning Resources

- Digital clock with voice out put.

Key Inquiry Question

How do we read and tell time on a digital clock with voice out put.

Learning Activities

1. Guide learners in pairs or in groups to read and tell time on a digital clock with voice out put, using the 12 hour clock system.
2. Using the example in the learner's book in the corresponding braille page, guide learners to read and tell time on the digital clock.

Work to do

Learners work out questions from the pupil's book in the corresponding braille page.

Week 10 Lesson 4

TIME

Writing Time using "Past" the Hour

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to write time "past" the hour.

Learning Resources

- Tactile clock face

Key Inquiry Question

How do we write time "past" the hour?

Learning Activities

1. Learners in pairs or groups mark different times on their tactile clock face and read and write marked time "past" the hour.
2. Guide learners in pairs or group to read and write time "past" the hour.

3. Using the examples in the learner's book in the corresponding braille page, guide learners to read and write time "past" the hour.
4. Learners to play digital games involving time. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.

Week 10 Lesson 5

TIME

Writing Time "to" the Hour

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to write time 'to' the hour

Learning Resources

- Tactile clock face

Key Inquiry Question

How do we write time "to" the hour?

Learning Activities

1. Learners in pairs or groups to mark time 'to' the hour on the tactile clock faces.
2. Guide learners in pairs or groups to read and write time "to" the hour.
3. Using the example in the learner's book in the corresponding braille page , guide learners to write time "to" the hour.
4. Learners to play digital games involving time. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do



Learners to work out questions from the learner's book in the corresponding braille page.

MONEY

Time - 3 lessons

Background Information

The teaching of money begins with the learners being guided to identify the different currency coins and notes. In earlier grades learners perform shopping activities which lead to differentiating concepts like balance and change. Later learners are expected to be able to relate a given amount of money to goods and services.

This sub strand also includes needs and wants as well as spending and saving which learners need to understand to be able to make meaningful decisions on money issues.

Learners are expected to work in pairs or groups in order to learn from each other which would lead to the development of core competencies. The teacher should bring out 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 for example 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 Language, Environmental and Religious activities. As a community service activity to support learning, learners assist in counting money offered in religious and non-religious functions.

MONEY

Shopping Activities Involving Change

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to carry out shopping activities involving change.

Learning Resources

- Kenyan currency notes
- Imitation money

Key Inquiry Question

What is change in money?

Learning Activities

1. Guide learners in pairs or in groups to role-play giving change in the classroom shop.
2. Ask learners to share their experiences of getting change with other groups.
3. Using the example in the learner's book in the corresponding braille page, guide learners to carry out shopping activities involving change.
4. Learners to play digital games involving money. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner'sbook in the corresponding braille page.

MONEY

Shopping Activities Involving Balance

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to carry out shopping



activities involving balance.

Learning Resources

- Kenyan currency notes
- Imitation money

Key Inquiry Question

What is balance in money?

Learning Activities

1. Guide learners in pairs or in groups to role-play giving balance in the classroom shop.
2. Ask learners to share their experiences with other groups.
3. Using the examples in the learner's book in the corresponding braille page, guide learners to carry out shopping activities involving balance.
4. Learners to play digital games involving money. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page,

Week 11 Lesson 3

MONEY

Adding and Subtracting Money Involving Shillings

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to add and subtract money up to sh. 1000.

Learning Resources

- Kenyan currency notes
- Imitation money

Key Inquiry Question

How do we add and subtract money in shillings?

Learning Activities

1. Provide learners with real and imitation money. Ask learners in pairs or groups to put together notes of different denominations and state their total value. Learners with blindness could work with sighted guides accompanied with verbal instructions to identify the texture in the Kenyan currency notes
2. Learners in pairs or groups to take away some notes from the ones in activity one (1) and state the value of the remainder. Learners to share their experiences with other groups
3. Using the examples in the learner's book in the corresponding braille page, guide learners to add and subtract money up to sh. 1000.
4. Learners to play digital games involving money. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.



General Learning Outcome

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

POSITION AND DIRECTION

Time - 2 lessons

Background Information

The learning of geometry starts with the learners modeling straight and curved lines. Position and direction is an important aspect in our day to day life hence the need to consider this in this sub strand. It is expected that the learners will be able to follow instructions on moving straight, turning right or left and even guide people to follow directions to get to a destination.

Learners are expected to work in pairs or groups in order to learn from each other which would lead to the development of core competencies. The teacher should bring out 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 for example unity, respect, patriotism and responsibility among others. The teacher should involve learners in non-formal activities including arranging seats in straight lines in the classroom. The teacher may also discuss how the position and direction concept is linked to Movement and creative and Environmental activities. As a community service activity to support learning learners could assist in arranging seats in straight lines in community functions.

ANSWERS FOR TERM 2

WEEK 1 LESSON 1

Buffalo	thirteenth
Cow	fourteenth
Giraffe	Seventh
Gazelle	Ninth
Sheep	fifteenth
Cat	eighth

WEEK 1 LESSON 2

13th
11th
14th
15th
12th

WEEK 1 LESSON 3

2.	728	733	738
3.	640	645	650
4.	920	925	930
5.	985	980	975
6.	566	561	556
7.	455	450	445

WEEK 1 LESSON 4

2.	0 tens	9 ones
3.	6 tens	5 ones



4. 3 tens 0 ones
5. 5 tens 4 ones
6. $75 = 7$ tens 5 ones
7. $92 = 9$ tens 2 ones
8. $41 = 4$ tens 1 ones
9. $37 = 3$ tens 7 ones
10. $65 = 6$ tens 5 ones

WEEK 1 LESSON 5

1. 125 1 hundreds 2 tens 5 ones
2. 695 6 hundreds 9 tens 5 ones
3. 741 7 hundreds 4 tens 1 ones
4. 825 8 hundreds 2 tens 5 ones
5. 970 9 hundreds 7 tens 0 ones
6. 53 0 hundreds 5 tens 3 ones
7. 986 9 hundreds 8 tens 6 ones
8. 731 7 hundreds 3 tens 1 ones
9. 104 1 hundreds 0 tens 4 ones

WEEK 2 LESSON 1

Reading Lesson

WEEK 2 LESSON 2

1. 69
2. 76
3. 75
7. 100

4. 89
5. 93
6. 99

WEEK 2 LESSON 3

2. Seventy seven
3. Sixty four
4. Eighty seven
5. Ninety eight

6. Ninety
7. Ninety three
8. One hundred

WEEK 2 LESSON 4

1. 84, 80
2. 330, 336, 339
3. 58, 52

4. 470, 490
5. 440, 450
6. 353, 349

WEEK 2 LESSON 5

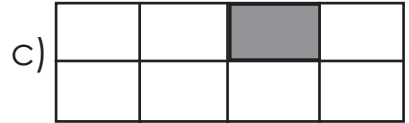
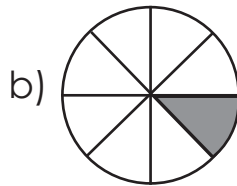
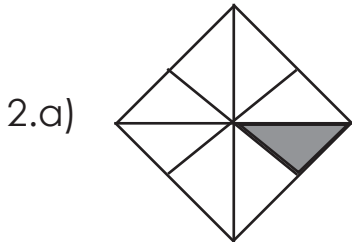
1. 860, 856
2. 220, 223
3. 723, 727

4. 525, 520, 515
5. 430, 330
6. 390, 470



WEEK 3 LESSON 1

1. a) $\frac{1}{8}$ b) $\frac{1}{8}$ c) $\frac{1}{8}$



WEEK 3 LESSON 2

1. Bigger i) a ii) b
2. Smaller i) b ii) a

WEEK 3 LESSON 3

1. 2 triangle
4 rectangle

2. a) 6 b) 8 c) 9 d) 12

WEEK 3 LESSON 4

1. 3
2. a) 2 b) 2 c) 5
3. 5

WEEK 3 LESSON 5

- | | |
|--------|---------|
| 1. 278 | 6. 577 |
| 2. 399 | 7. 659 |
| 3. 489 | 8. 769 |
| 4. 887 | 9. 198 |
| 5. 998 | 10. 897 |

WEEK 4 LESSON 1

- | | |
|--------|--------|
| 1. 289 | 5. 388 |
| 2. 786 | 6. 984 |
| 3. 198 | 7. 492 |
| 4. 673 | 8. 558 |
| | 9. 291 |

10. 899

8. 983

WEEK 4 LESSON 2

- | | | |
|--------|--------|---------|
| 4. 594 | | |
| 1. 294 | 5. 760 | 9. 895 |
| 2. 391 | 6. 861 | 10. 682 |
| 3. 461 | 7. 884 | |



WEEK 4 LESSON 3

- | | |
|--------|---------|
| 1. 338 | 6. 836 |
| 2. 419 | 7. 919 |
| 3. 727 | 8. 538 |
| 4. 745 | 9. 205 |
| 5. 607 | 10. 316 |

WEEK 4 LESSON 4

- | | |
|-------|--------|
| 1. 12 | 6. 16 |
| 2. 18 | 7. 18 |
| 3. 17 | 8. 17 |
| 4. 18 | 9. 18 |
| 5. 18 | 10. 18 |

WEEK 4 LESSON 5

- | | |
|--------|---------|
| 1. 388 | 6. 763 |
| 2. 589 | 7. 992 |
| 3. 799 | 8. 973 |
| 4. 917 | 9. 991 |
| 5. 555 | 10. 999 |

WEEK 5 LESSON 1

- | | |
|--------|---------|
| 1. 380 | 6. 780 |
| 2. 580 | 7. 960 |
| 3. 593 | 8. 765 |
| 4. 581 | 9. 984 |
| 5. 753 | 10. 390 |

WEEK 5 LESSON 2

1. 519
2. 749
3. 728
4. 829
5. 919

6. 985
7. 739
8. 429
9. 808

WEEK 5 LESSON 3

1. 610, 685
2. 700, 760
3. 400, 450
4. 350, 425
5. 610, 670

6. 850, 1000
7. 600, 680

WEEK 5 LESSON 4

1. 21
2. 42
3. 25
4. 24
5. 21
6. 22

7. 24 cubs
8. 24 books
9. 35 learners
10. 52 learners

WEEK 5 LESSON 5

1. 134
2. 233
3. 303
4. 442
5. 500

6. 674
7. 787
8. 893 bags
9. 341 trees



WEEK 6 LESSON 1

1. 28
2. 19
3. 49
4. 1
5. 6
6. 29

7. 15 packets
8. 26 bags
9. 48 learners
10. 18 sticks

WEEK 6 LESSON 2

1. 339
2. 548
3. 456
4. 265
5. 884
6. 927

7. 609 kg
8. 779 goats
9. 148 books
10. 119 packets

WEEK 6 LESSON 3

1. 112
2. 255
3. 473
4. 115
5. 242
6. 111

7. 103 seedlings
8. 208 bags
9. 154 sheep
10. 243 litres

WEEK 6 LESSON 4

1. 355
2. 877
3. 778
4. 614
5. 585
6. 636

7. 175
8. 441 fish
9. 253 bags
10. 119 packets

WEEK 6 LESSON 5

- 50
- 10
- 330
- 440
- 100
- 600

- 20
- 10
- 0
- 50 learners

WEEK 7 LESSON 1

- 35, 30
- 111, 109
- 140, 130
- 276, 272

- 381, 378
- 600, 550
- 120, 20
- 704, 701

WEEK 7 LESSON 2

- 5
- $5 \times 2 = 10$
- $3 \times 5 = 15$
-

- $3 \times 4 = 12$
- $9 \times 4 = 36$

x	1	2	3	4	5	6	7	8	9
1	1	2	3	4	5	6	7	8	9
2	2	4	6	8	10	12	14	16	18
3	3	6	9	12	15	18	21	24	27
4	4	8	12	16	20	24	28	32	36
5	5	10	15	20	25	30	35	40	45

WEEK 7 LESSON 3

- a) $3 \times 4 = 12$ b) $3 \times 5 = 15$
- a) 6 b) 10 c) 15 d) 25
- a) 20 b) 12 c) 5 d) 16 e) 8
f) 4



4.

x	1	2	3	4	5
1	1	2	3	4	5
2	2	4	6	8	10
3	3	6	9	12	15
4	4	8	12	16	20
5	5	10	15	20	25

WEEK 7 LESSON 4

1. $3 \times 6 = 18$
2. a) 36 b) 42 c) 48
3. a) 54 b) 60
4. 30 questions
5. 30 bananas

WEEK 7 LESSON 5

1. $3 \times 7 = 21$
2. a) 35 b) 28 c) 49
3. a) 56 b) 63
4. 14 pieces 5. 21 litres

WEEK 8 LESSON 1

1. 3
2. 5
3. 2
4. 2
5. 2
6. 5
7. 5
8. 6 oranges
9. 6 pencils
10. 5 water melons

WEEK 8 LESSON 2

1. 8
2. 9
3. 2
4. 3
5. 3
6. 9
7. 6
8. 4 books
9. 8 rubbers
10. 9 bags

WEEK 8 LESSON 3

- | | |
|------|---------------|
| 1. 8 | 6. 5 |
| 2. 8 | 7. 3 |
| 3. 3 | 8. 9 oranges |
| 4. 9 | 9. 9 biscuits |
| 5. 4 | 10. 5 bottles |

WEEK 8 LESSON 4

1. Guide learners accordingly as they measure the distances
2. 33 metres
3. 395 metres

WEEK 8 LESSON 5

Guide learners to make accurate measurements of the objects, then confirming their estimates

WEEK 9 LESSON 1

- | | |
|---------|----------|
| 1. 9 kg | 4. 34 kg |
| 2. 7 kg | 5. 17 kg |
| 3. 5 kg | |

WEEK 9 LESSON 2

1. 15 kg
2. 7 kg
3. 12 kg

WEEK 9 LESSON 3

Guide learners accordingly as they compare other masses with the 5kg mass.



WEEK 9 LESSON 4

1. 7 litres
2. 31 litres
3. 191 litres
4. 23 litres
5. 21 litres

WEEK 9 LESSON 5

1. 38 litres
2. 55 litres
3. 415 litres
4. 686 litres
5. 11 litres

WEEK 10 LESSON 1

Guide learners accordingly in estimating and confirming capacity

WEEK 10 LESSON 2

1. a quarter to 7
2. a quarter to 11
3. 20 minutes to 5
4. 10 minutes to 8
5. quarter to 3
6. quarter to 12
7. 10 minutes to 1
8. 25 minutes to 5

WEEK 10 LESSON 3

1. quarter to noon
2. quarter past 3
3. 3 o'clock
4. quarter past 9
5. 2 o'clock
6. noon
7. quarter past 10
8. Half past midnight
9. 5 minutes past midnight
10. midnight

WEEK 10 LESSON 4

- 15 minutes
- 30 minutes past three
- 20 minutes past 1
- 5 minutes past 9
- 10 minutes past 12
- 30 minutes past 10

WEEK 10 LESSON 5

1. 15 minutes to 12
2. 20 minutes to 2
3. 10 minutes to 3

4. 5 minutes to 4
5. 25 minutes to 2
6. 15 minutes to 11

WEEK 11 LESSON 1

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

5. 5
6. 1
7. 2

WEEK 11 LESSON 2

1. sh. 200
2. sh. 50
3. sh. 150

WEEK 11 LESSON 3

1. sh. 382
2. sh. 611
3. sh. 783
4. sh 928
5. sh 494
6. sh 350
7. sh 115

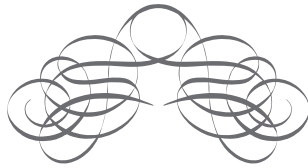
WEEK 11 LESSON 4

Guide learners to use the landmark to turn to the right accordingly

WEEK 11 LESSON 5

Guide learners to use the landmark to turn to the left accordingly





TERM THREE



General Learning Outcome

Learners should demonstrate mastery of number concepts by working out problems in day to day life

NUMBER CONCEPT

Time - 2 lessons

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 count numbers in symbols up to 100. In this sub strand, learners will be expected to apply previous knowledge acquired in identifying positions from 1 – 20. Learners will all be expected to play digital games using their LDD or any other IT devices.

Learners are expected to work in pairs or groups in order to learn from each other which would lead to the development of core competencies. The teacher should bring out 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 for example unity, respect, patriotism, responsibility among others. The teacher should also involve learners in non-formal activities including counting different types of items in their classroom. The teacher may also discuss how the number concept is linked to language, 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.

NUMBER CONCEPT

Ordinal Number Names 1 to 20

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to use ordinal number names to identify position from 1 to 20.

Learning Resources

- Braille number cards.
- Felt pens.
- Books.
- Playground

Key Inquiry Question

How do you identify position of rally cars in a competition?

Learning Activities

1. Guide learners to form groups and then ask them to engage in a running activity outside the classroom. Learners with blindness could work with sighted guides accompanied by verbal instructions.
2. Learners to form a queue and hold the shoulder of the one in front as they complete the race/activity at the finishing line. Learners with blindness could work with sighted guides accompanied by verbal instructions.
3. Learners to assign ordinal numbers to the competitors as first, second up to twentieth.
4. Guide learners to read the ordinal number names: first, second, up to twentieth.
5. Using the example in the learner's book, in the corresponding



braille page, guide learners in using ordinal number names to identify the positions: first, second up to twentieth.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.

Week 1 Lesson 2

NUMBER CONCEPT

Ordinal Number Symbols 1st to 20th

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to use ordinal number symbols to identify positions from 1st to 20th.

Learning Resources

- Braille number cards.
- Felt pens.
- Books.

Key Inquiry Question

How do you identify the positions of learners in an examination?

Learning Activities

1. Guide learners in pairs or in groups to arrange 20 mathematical activities text books on their desks from left to right.
2. Learners to place braille number cards with ordinal number names, first, second up to twentieth on the books.
3. Guide learners to turn over the braille number cards with ordinal number symbols 1st, 2nd, up to 20th and read the symbols with emphasis on 16th, 17th, 18th, 19th and 20th.
4. Using the example in the learner's book in the corresponding

braille page, guide learners on how to identify positions using symbols 1st, 2nd, up to 20th.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page

WHOLE NUMBERS

Time - 5 lessons

Background Information

In grade two learners covered the counting of numbers up to 100. They also identified place value of ones, tens and hundreds as well as reading and writing numbers in words.

In this sub strand these concepts are developed further. Learners will count up to 1000 and identify place value up to thousands. Learners will also make patterns and it is hoped that they will appreciate number patterns as they skip on the adapted number line. The teacher should guide learners in playing digital games related to the sub strand in school and outside school.

Learners are expected to work in pairs or groups in order to learn from each other which would lead to the development of core competencies. The teacher should bring out 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 for example unity, respect, patriotism, and responsibility among others. The teacher should also involve learners in non-formal activities including planting flowers following a pattern in the school compound. The teacher may also discuss how the whole



number concept is linked to Language, Environmental, 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.

Week 1 Lesson 3

WHOLE NUMBERS

Counting in Tens

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to count in tens forward and backwards from 1 to 1000

Learning Resources

- Braille number cards
- Adapted number line
- Braille number chart
- Counters

Key Inquiry Question

How do you count in tens?

Learning Activities

1. Guide learners in pairs or in groups to count in tens both forward and backwards using objects.
2. Learners in groups to place braille number cards on the groups of objects formed in activity 1.
3. Using the example in the learner's book , guide learners to count in tens from 1 to 1000 both forward and backwards.
4. Provide learners with digital devices with embossed keyboard and voice output.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page

Week 1 Lesson 4

WHOLE NUMBERS

Place Value

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to identify place value up to thousands.

Learning Resources

- spiked abacus
- Place value tins

Key Inquiry Question

How do you identify the place value of numbers?

Learning Activities

1. Guide learners in pairs or groups to represent various numbers using spiked abacus or place number tins.
2. Learners in pairs or in groups to identify ones, tens, hundreds and thousands from the spiked abacus/place value tins.
3. Using the example in the learner's book in the corresponding braille page, guide learners in identifying place value of ones, tens, hundreds and thousands.
4. Provide learners with digital devices with embossed keyboard and voice output.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page



WHOLE NUMBERS

Reading Numbers 1 to 1000 in Symbols

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to read numbers 1 to 1000 in symbols.

Learning Resources

- Braille number charts with number symbols
- Braille cards

Key Inquiry Question

What do you consider when reading numbers?

Learning Activities

1. Guide learners in pairs or groups to read the numbers 1 to 1000 in symbols
2. Ask learners in pairs or groups to read numbers 1 to 1000 in symbols using braille cards and braille number chart.
3. Using the examples in the learner's book in the corresponding braille page, guide learner's in reading numbers 1 to 1000 in symbols.

Work to do

Learners to work out the activity in the learner's book book in the corresponding braille page

WHOLE NUMBERS

Reading and Writing Numbers in Words

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to read and write numbers 1 to 100 in words.

Learning Resources

- Braille number chart with number symbols and number names
- Braille cards

Key Inquiry Question

What do you consider when reading and writing numbers in words?

Learning Activities

1. Guide learners in pairs or in groups to read and write numbers 1 to 100 in words.
2. Ask learners in pairs or groups to match number words with number symbols (1 to 100).
3. Learners in pairs or groups to read and write numbers 1 to 100 in words.
4. Using the example in the learner's book in the corresponding braille page, guide learners in reading and writing whole numbers 1 to 100 in words.
5. Provide learners with digital devices with embossed keyboard and voice output.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.



WHOLE NUMBERS

Number Patterns

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to find missing numbers in number patterns up to 1000.

Learning Resources

- Braille number cards
- braille hundred chart
- Pocket boards

Key Inquiry Question

How do you find missing numbers in number patterns?

Learning Activities

1. Guide learners in pairs or in groups to use braille number cards, braille hundred chart and pocket boards to find missing numbers in number patterns.
2. Ask learners in pairs or groups to discuss and come up with different ways of finding missing numbers.
3. Using the examples in the learner's book book in the corresponding braille page, guide learners in finding missing numbers in number patterns.
4. Learners to play digital games involving whole numbers. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book book in the corresponding braille page.

FRACTIONS

Time - 2 lessons

Background Information

In this sub strand learners will be introduced to a fraction 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 ($\frac{1}{2}$), a quarter ($\frac{1}{4}$) and an eighth ($\frac{1}{8}$) 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, sticks, bottle tops or any other safe type of counter. Knowledge of division, sorting and grouping acquired in earlier grades will be useful in this sub strand.

Learners are expected to work in pairs or groups in order to learn from each other which would lead to the development of some of the basic education curriculum core competencies. The teacher should bring out 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 for example unity, respect, patriotism and responsibility among others. The teacher should also involve learners in non-formal activities including sharing edible food items in halves and quarters in school. The teacher may also discuss how the concept on fractions is linked to Language 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



FRACTIONS

Comparing $\frac{1}{2}$, $\frac{1}{4}$ and $\frac{1}{8}$ as Part of a Whole

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to compare $\frac{1}{2}$, $\frac{1}{4}$ and $\frac{1}{8}$ as part of a whole.

Learning Resources

- Manila cutouts
- Pair of scissors

Key Inquiry Question

How do you compare $\frac{1}{2}$, $\frac{1}{4}$ and $\frac{1}{8}$ as part of a whole?

Learning Activities

1. Guide learners in pairs or in groups to cut circular cutouts. Learners with blindness could work with sighted guides accompanied by verbal instructions. Discuss the safety precautions when handling sharp objects.
2. Ask learners to find out how to get a $\frac{1}{2}$, $\frac{1}{4}$ and $\frac{1}{8}$ of circular cutouts.
3. Ask learners to fold the circular cutouts into 2, 4 and 8 equal parts.
4. Learners to identify $\frac{1}{2}$, $\frac{1}{4}$ and $\frac{1}{8}$ as part of a whole.
5. Guide learners to compare $\frac{1}{2}$, $\frac{1}{4}$, and $\frac{1}{8}$.
6. Using the example in the learner's book in the corresponding braille page, guide the learner's to compare $\frac{1}{2}$, $\frac{1}{4}$ and $\frac{1}{8}$ as part of a whole.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.

FRACTIONS

Comparing $\frac{1}{2}$, $\frac{1}{4}$ And $\frac{1}{8}$ as Part of a Group

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to compare $\frac{1}{2}$, $\frac{1}{4}$ and $\frac{1}{8}$ as part of a group.

Learning Resources

- Bottle tops
- Sticks

Key Inquiry Question

How do you compare $\frac{1}{2}$, $\frac{1}{4}$ and $\frac{1}{8}$ as part of a group?

Learning Activities

1. Guide learners to share bottle tops in two groups. Learners to explain what fraction each group represents.
2. Learners to share bottle tops into four equal groups. Learners to explain what fraction each group represents. Provide 3 groups triangular cut outs
 - In the first group:- 2 cutout should have embossed.
 - In second group 4 cut outs should be embossed marks.
 - In the third group one cut out should be embossed.
3. Learners to share bottle tops into eight equal groups. Learners to explain what fraction each group represents.
4. Guide the learners to compare $\frac{1}{2}$, $\frac{1}{4}$ and $\frac{1}{8}$ as part of a group.
5. Using the examples in the learner's book in the corresponding braille page, guide learners to compare $\frac{1}{2}$, $\frac{1}{4}$ and $\frac{1}{8}$ as part of a group.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.



ADDITION

Time - 8 lessons

Background Information

Addition of up to two 2-digit numbers with and without regrouping has already been covered in the previous grades. 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 3-digit numbers with single regrouping in ones or tens. The concept of number patterns involving addition is also extended to 1000. The teacher can search for digital games that involve addition and guide the learners in playing them.

Learners are expected to work in pairs or groups in order to learn from each other which would lead to the development of core competencies. The teacher should bring out 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 for example unity, respect, patriotism and responsibility among others. The teacher should also involve learners in non-formal activities including planting flowers in patterns in school. The teacher may also discuss how the addition concept is linked to Languages and Hygiene and Nutrition 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.

Week 2 Lesson 5

ADDITION

Adding a 3- digit number to a 1- digit number

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to add a 3-digit number to a 1- digit number vertically and horizontally without regrouping with sum not exceeding 1000

Learning Resources

- Place value tins with sticks or straws
- Spiked abacus

Key Inquiry Question

What do you consider when adding numbers vertically and horizontally?

Learning Activities

1. Guide learners in pairs or in groups to use place value apparatus to add a 3 digit number to a 1- digit number with sum not exceeding 1000. Discuss the safety precautions when handling resources and materials.
2. Ask learners in pairs or groups to discuss how to add a 3 digit number to a 1- digit number vertically and horizontally without regrouping with sums not exceeding 1000.
3. Guide learners in working out examples in the learner's book in the corresponding braille page,
4. Guide learners in playing digital games involving addition. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.



ADDITION

Adding a 3- digit number to a 2- digit number

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to add a 3- digit number to 2- digit number without regrouping vertically and horizontally with sum not exceeding 1000

Learning Resources

- Place value tins with sticks or straws
- Spiked abacus

Key Inquiry Question

How do you add numbers vertically?

Learning Activities

1. Guide learners in pairs or in groups to use the place value apparatus in doing addition. Discuss the safety precautions when handling resources and materials.
2. Learners in pairs to discuss how to add a 3 digit number to a 2- digit number vertically and horizontally without regrouping with sum not exceeding 1000.
3. Discuss with the learners how to add a 3 digit number to a 2- digit number vertically and horizontally without regrouping with sum not exceeding 1000.
4. Guide the learners in working out the example in learner's book in the corresponding braille page.
5. Guide learners in playing digital games involving addition of a 3 digit number to a 2- digit number without regrouping with sum not exceeding 1000. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.

Week 3 Lesson 2

ADDITION

Adding a 3- digit number to a 1- digit number

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to add a 3- digit number to a 1- digit number vertically and horizontally with regrouping from ones with sum not exceeding 1000

Learning Resources

- Place value tins with sticks or straws
- Spiked abacus

Key Inquiry Question

How do you add numbers vertically?

Learning Activities

1. Guide learners in pairs or in groups to use the place value apparatus to add a 3- digit number to a 1- digit number. Discuss the safety precautions when handling resources and materials.
2. Discuss with the learners how to add a 3 digit number to a 1- digit number vertically and horizontally with regrouping from ones with sum not exceeding 1000.
3. Guide the learner's in working out examples in the learner's book in the corresponding braille page, .
4. Guide learners in playing digital games involving addition. Provide learners with digital devices with embossed keyboard and voice out put



Work to do

Learners to work out questions from the learner's book in the corresponding braille page.

Week 3 Lesson 3

ADDITION

Adding a 3- digit number to 2- digit number

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to add a 3- digit number to 2- digit number vertically with regrouping from tens with sum not exceeding 1000

Learning Resources

- Place value tins with sticks or straws
- Spiked abacus with bottle tops

Key Inquiry Question

How do you add numbers vertically?

Learning Activities

1. Guide learners in pairs or in groups to use place value apparatus to add a 3- digit number to 2- digit number. Discuss the safety precautions when handling resource and materials.
2. Discuss with the learners how to add a 3-digit number to a 2-digit number vertically with regrouping from tens with sum not exceeding 1000.
3. Guide learners in working out examples in learner's book book in the corresponding braille page.
4. Guide learners in playing digital games involving addition Provide learners with digital devices with embossed keyboard and voice out put

Work to do

Learners to work out questions from the learner's book in the corresponding braille page, .

Week 3 Lesson 4

Adding 3-single digit numbers

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to add 3-single digit numbers with sum not exceeding 27.

Learning Resources

- Bottle tops
- Sticks
- Grains

Key Inquiry Question

How do you add more than two numbers?

Learning Activities

1. Guide learners in pairs or in groups to use the resources given in doing addition of 3-single digit numbers. Discuss the safety precautions when handling resources and materials.
2. Discuss with the learner's how to add 3-single digit numbers with sum not exceeding 27.
3. Guide learners in working out examples in learners book in the corresponding braille page.
4. Guide learners in playing digital games involving addition. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book book in the corresponding braille page.



ADDITION

Adding two 3- digit numbers

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to add two 3- digit numbers vertically and horizontally without regrouping with sum not exceeding 1000

Learning Resources

- Place value tins with sticks or straws
- Spiked abacus

Key Inquiry Question

How do you add numbers vertically?

Learning Activities

1. Guide learners in pairs or in groups to use place value apparatus to add two 3- digit numbers. Discuss the safety precautions when handling resources and materials.
2. Discuss with the learners how to add two 3- digit numbers vertically and horizontally without regrouping with sum not exceeding 1000.
3. Guide learners in working out examples in learners book in the corresponding braille page.
4. Guide learners in playing digital games involving addition. Provide learners with digital devices with embossed keyboard and voice out put

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.

ADDITION

Adding two 3- digit numbers

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to add a 3- digit number to a 3- digit number vertically and horizontally with regrouping from ones and tens with sum not exceeding 1000

Learning Resources

- Place value tins with sticks or straws
- Spiked abacus

Key Inquiry Question

How do you add numbers vertically?

Learning Activities

1. Guide learners in pairs or in groups to use the place value apparatus to add a 3 digit number to a 3- digit number. Discuss the safety precautions when handling resources and materials.
2. Discuss with learners how to add a 3 digit number to a 3- digit number vertically and horizontally with regrouping from ones and tens with sum not exceeding 1000.
3. Guide learners in working out examples in learner's book in the corresponding braille page.
4. Guide learners in playing digital games involving addition. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.



ADDITION

Number patterns

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to create number patterns involving addition up to 1000.

Learning Resources

- Tactile number Boards/Tactile number grids
- Adapted number-line
- Braille hundred charts

Key Inquiry Question

How do you create number patterns?

Learning Activities

1. Guide learners in pairs or in groups to discuss how to find a missing number in order to create number patterns using the braille hundred charts or Tactile number boards/ tactile number grids. Discuss the importance of social cohesion when looking for missing numbers.
2. Discuss with learners how to create number patterns involving addition up to 1000.
3. Using examples in the learner's book in the corresponding braille page, guide learners to create number patterns involving addition up to 1000.
4. Learners to play digital games involving number patterns. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.

SUBTRACTION

Time - 5 lessons

Background Information

Subtraction was introduced in earlier grades as taking away. In grade two, subtraction of up to 2-digit numbers without regrouping was covered. The relationship between addition and subtraction as well as number pattern involving subtraction is also covered in grade two. It is on this pre-requisite that the concept of subtraction of up to 3-digit numbers is developed. Missing numbers in patterns involving subtraction of up to 1000 will also be taught under this sub strand.

Learners are expected to work in pairs or groups in order to learn from each other which would lead to the development of core competencies. The teacher should bring out 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 for example unity, respect, patriotism and responsibility, among others. The teacher should also involve learners in non-formal activities including 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 activities organized by community members as a way of promoting learning outside the school.

Week 4 Lesson 3

SUBTRACTION

Subtracting a 2-digit number from a 3-digit number

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to subtract a 2-digit number from a 3-digit number without regrouping.

Learning Resources

- Place value tins with sticks or straws
- Spiked abacus



Key Inquiry Question

What do you consider when subtracting numbers vertically and horizontally?

Learning Activities

1. Guide learners in pairs or in groups to use place value apparatus to subtract a 2 digit number from a 3- digit number without regrouping. Discuss the safety precautions when handling resources and materials.
2. Ask learners in pairs or groups to discuss how to subtract a 2 digit number from a 3- digit number vertically and horizontally without regrouping.
3. Using examples in the learner's book in the corresponding braille page, guide the learner's in subtracting 2-digit number from a 3-digit number without regrouping.
4. Learners to play digital games involving subtraction. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.

Week 4 Lesson 4

SUBTRACTION

Subtracting a 2-digit number from a 3-digit number

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to subtract a 2-digit number from a 3-digit number with regrouping at the tens place value.

Learning Resources

- Place value tins with sticks or straws
- Spiked abacus

Key Inquiry Question

What do you consider when subtracting numbers?

Learning Activities

1. Guide learner's in pairs or in groups to use place value apparatus to subtract a 2 digit number from a 3- digit number with regrouping at tens place. Discuss the safety precautions when handling resources and materials.
2. Ask learner's in pairs or groups to discuss how to subtract a 2 digit number from a 3- digit number with regrouping at tens place.
3. Using examples in the learner's book page 213, guide the learner's in subtracting a 2-digit number from a 3-digit number with regrouping at the tens place.
4. Learner's to play digital games involving subtraction. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learner's to work out questions from the learner's book in the corresponding braille page.

Week 4 Lesson 5

SUBTRACTION

Subtracting two 3-digit numbers

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to subtract two 3-digit numbers with regrouping at the tens place value.

Learning Resources

- Place value tins with sticks or straws



- Place value chart
- Abacus

Key Inquiry Question

What do you consider when subtracting numbers?

Learning Activities

1. Guide learner's in pairs or in groups to use place value apparatus in subtracting two 3-digit numbers with regrouping at the tens place. Discuss the safety precautions when handling resources and materials.
2. Learner's in pairs to discuss and come up with different ways of subtracting two 3-digit numbers with regrouping at the tens place.
3. Using the example in the learners book in the corresponding braille page, guide the learner's in subtracting two 3-digit numbers with regrouping at the tens place value.
4. Learner's to play digital games involving subtraction. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learner's to work out questions from the learner's book in the corresponding braille page.

SUBTRACTION

Subtracting multiples of 10

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to subtract multiples of 10 up to 1000 without regrouping.

Learning Resources

- Place value tins with sticks or straws
- Spiked abacus

Key Inquiry Question

When do you regroup during subtraction?

Learning Activities

1. Guide learners in pairs or in groups to use place value apparatus in subtracting multiples of 10 up to 1000 without regrouping. Discuss the safety precautions when handling resources and materials.
2. Ask learners in pairs to discuss and come up with different ways of subtracting multiples of 10 up to 1000 without regrouping.
3. Using examples in the learner's book in the corresponding braille page, guide the learners in subtracting multiples of 10 up to 1000 without regrouping.
4. Learners to play digital games involving subtraction. Provide learners with digital devices with embossed keyboard and voice output.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.



SUBTRACTION

Number Patterns

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to find missing numbers in number patterns up to 1000 involving subtraction.

Learning Resources

- Braille number cards
- Braille hundred chart
- Pocket board

Key Inquiry Question

How do you identify the missing number in a number pattern?

Learning Activities

1. Guide learners in pairs or in groups to use braille number cards, Braille hundred chart, and pocket board to identify missing numbers in a number pattern.
2. Learners in pairs to discuss and come up with different ways of identifying missing numbers in a number pattern.
3. Using examples in the learners book in the corresponding braille page, guide the learners in identifying missing numbers in a number pattern up to 1000 involving subtraction.
4. Learners to play digital games involving number patterns. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.

MULTIPLICATION

Time - 3 lessons

Background Information

Multiplication is introduced in grade two 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. It is hoped that the teachers will use equal groups of objects a number of times to relate repeated addition with multiplication sentences.

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.

Learners are expected to work in pairs or groups in order to learn from each other which would lead to the development of core competencies. The teacher should bring out 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 for example 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



MULTIPLICATION

Multiplying Numbers 8, 9 and 10

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to multiply numbers 8, 9 and 10 by 1 to 10 using repeated addition.

Learning Resources

- Counters

Key Inquiry Question

How do you multiply using repeated addition?

Learning Activities

1. Guide learners on how to work out multiplication of 8, 9 and 10 using concrete objects. Discuss the safety precautions when handling resources and materials
2. Discuss with learners how to work out multiplication using repeated addition. Provide learners with 3 groups of 8 objects and 2 groups of nine objects each.
3. Using examples in the learner's book in the corresponding braille page, guide learners on how to work out multiplication using repeated addition.
4. Learners to play digital games involving multiplication. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from learner's book in the corresponding braille page.

MULTIPLICATION

Multiplying Numbers 8, 9 and 10

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to multiply numbers 8, 9 and 10 by numbers 1 to 10.

Learning Resources

- Braille multiplication table

Key Inquiry Question

How do we multiply using a braille multiplication table?

Learning Activities

1. Learners in pairs or groups to discuss how to multiply using a braille multiplication table.
2. Guide learners on how to work out multiplication of 8, 9 and 10 using a braille multiplication table.
3. Using examples in the learner's book in the corresponding braille page, guide learners to multiply using a braille multiplication table.
4. Learners to play digital games involving multiplication. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.



MULTIPLICATION

Multiplying Numbers 8, 9 and 10

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to multiply 8, 9, and 10 by numbers 1 to 10 in word questions.

Learning Resources

- Braille multiplication table
- Counters

Key Inquiry Question

How do we work out multiplication in word questions?

Learning Activities

1. Learners in pairs or groups to discuss different ways of multiplying whole numbers.
2. Guide learners on how to work out multiplication of numbers 8, 9 and 10 in word questions.
3. Using examples in the learner's book in the corresponding braille page, guide learners to multiply in word questions.
4. Learners to play digital games involving multiplication. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page .

DIVISION

Time - 2 lessons

Background Information

Division is taught for the first time in this grade. However, it is not a new concept as learners have had experiences in their day to day life or even during play. Division is introduced as repeated subtraction hence it is important for the learners to have mastered subtraction of whole numbers. In this sub strand the relationship between multiplication and division will be taught and the learners will be expected to use the braille multiplication table to get the result of division questions as division is the inverse of multiplication. Digital games involving division will enhance the development of this concept.

Learners are expected to work in pairs or groups in order to learn from each other which would lead to the development of core competencies. The teacher should bring out 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 for example unity, respect, patriotism and responsibility among others. The teacher should also involve learners in non-formal activities including planting seedlings in rows in the school compound. The teacher may also discuss how the division concept is linked to Languages and Environmental activities. Learners could visit children's homes and share fruits with them as a way of giving back to the community.



DIVISION

Dividing numbers up to 90

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to divide numbers up to 90 by numbers 1 to 9.

Learning Resources

- Braille multiplication table
- counters

Key Inquiry Question

How do we use the braille multiplication table to work out division questions?

Learning Activities

1. Learners to use the braille multiplication table to work out braille multiplication and write corresponding division sentences.
2. Guide learners on how to divide using a braille multiplication table.
3. Learners write horizontal questions.
4. Using examples in the learner's book in the corresponding braille page, guide learners to divide numbers up to 90.
5. Learners to play digital games in division. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.

DIVISION

Word Questions Involving Division

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to work out word questions involving division up to 81.

Learning Resources

- Braille multiplication table
- Counters

Key Inquiry Question

What do you consider when dividing numbers in word questions?

Learning Activities

1. Learners to discuss what to consider in working out division word questions
2. Guide learners on how to work out word questions.
3. Using the example in the learner's book in the corresponding braille page, guide learners to work out word questions in division.
4. Learners to play digital games in division. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.



General Learning Outcome

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

LENGTH**Time - 2 lessons****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 involved in measuring length in metres. The learners will also be expected to be able to estimate lengths up to 20 metres hence they should be involved in many measuring activities for them to be able to estimate.

Learners are expected to work in pairs or groups in order to learn from each other which would lead to the development of core competencies. The teacher should bring out 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 for example unity, respect, patriotism and responsibility, among others. The teacher should also involve learners in non-formal activities including 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/rabbit cages, among others, as a way of promoting learning outside the classroom.

LENGTH

Adding Length in Metres

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to add length in metres in real life situations

Learning Resources

- Tactile metre rule
- Metre sticks
- 5 metre Strings

Key Inquiry Question

How do we add length in metres?

Learning Activities

1. Guide learners in pairs or groups to measure lengths of the four walls of their classroom. Learners with blindness could work with sighted guides accompanied by verbal instructions. Learners to record the measurements in their exercise books. Learners with blindness could work with sighted guides accompanied with verbal instructions. Discuss the safety precautions when handling resources and materials.
2. Discuss with learners how to add two of the lengths at a time.
3. Using examples in the learner's book in the corresponding braille page, guide learners on how to add length in metres.
4. Learners to play digital games involving length. Provide learners



with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.

Week 6 Lesson 4

LENGTH

Subtracting Length in Metres

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to subtract length in metres in real life situations.

Learning Resources

- Tactile metre rule
- Metre sticks
- 5 metre Strings

Key Inquiry Question

How do we subtract length in metres?

Learning Activities

1. Guide learners in pairs or groups to measure the length of the chalk board and the walls on which it is fixed. Learners with blindness could work with sighted guides accompanied by verbal instructions Learners to record the measurements in their exercise books. Discuss the safety precautions when handling resources and materials.
2. Learners in pairs or groups to discuss how to work out the difference of the lengths measured in activity one. Learners to share their experiences with other groups.
3. Using examples in the learner's book in the corresponding braille

page, guide learners on how to subtract length in metres.

4. Learners to play digital games involving length. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.

MASS

Time - 1 lesson

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 involved in measuring mass in kilograms and also in adding and subtracting mass in kilograms. The learners will also be expected to be able to estimate mass up to 5 kilograms hence they should be involved in many measuring activities using a beam balance or measuring scale for them to be able to estimate.

Learners are expected to work in pairs or groups in order to learn from each other which would lead to the development of some of core competencies. The teacher should bring out 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 for example unity, respect, patriotism and responsibility among others. The teachers should involve learners in non-formal activities including measuring mass of items in their classroom in kilograms during their free time. The teacher may also discuss how the mass concept



is linked to Languages and Environmental activities. Learners to assist their neighbours in measuring mass of items in their homes in kilograms as a way of promoting learning outside the classroom.

Week 6 Lesson 5

MASS

Adding and Subtracting Mass in Kilograms

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to add and subtract mass in kilograms in real life situations.

Learning Resources

- Items of different masses in the classroom shop.

Key Inquiry Question

What do we use to measure mass?

Learning Activities

1. Provide learner's in pairs or groups with different items whose masses are indicated. Learners with blindness could work with sighted guides accompanied by verbal instructions. Let learner's discuss how to get the total mass of the items. Discuss the safety precautions when handling resources and materials.
2. Guide learners on how to work out the total mass of any two items.
3. Learners in pairs or groups are provided with sand or soil in packets of 1 kg. Ask learners to form groups of 1 kg.
4. Learners in pairs or groups are guided to take away some packets from the group formed.
5. Using examples in the learner's book in the corresponding braille page, guide learners to add and subtract mass in kilograms in real life situations.

6. Learners to play digital games involving mass in kilograms. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learner's to work out questions from the learner's book in the corresponding braille page.

CAPACITY

Time - 3 lessons

Background Information

The development of the concepts under measurements follows 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 involved in measuring capacity in litres and also in adding and subtracting capacity in litres. The learners should be involved in a variety of measuring activities using a 1- litre container for them to be able estimate capacity up to 5 litres.

Learners are expected to work in pairs or groups in order to learn from each other which would lead to the development of core competencies. The teacher should bring out 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 for example unity, respect, patriotism and responsibility among others. The teacher should involve learners in non-formal activities including 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 in measuring capacity of containers used for storing liquids



CAPACITY

Measuring Capacity in Litres

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to measure capacity in litres.

Learning Resources

- 1 litre container
- Water
- Containers of different capacities

Key Inquiry Question

What can we use to measure capacity?

Learning Activities

1. Provide learners in pairs or in groups with water and containers of different capacities. Learners with blindness could work with sighted guides accompanied by verbal instructions. Ask learners in pairs or in groups to discuss and come up with different ways of finding capacities of the containers.
2. Guide learners in pairs or in groups to measure capacity of various containers in litres using water. Discuss safety precautions when handling resources and materials.
3. Using the activity in the learner's book in the corresponding braille page, guide learners to measure the capacity of containers.
4. Learners to play digital games involving capacity. Provide learners with digital devices with embossed keyboard and voice out put

Work to do

Learners to work out questions from the learner's book in the corresponding braille page. Learners could work with sighted guide to measure capacity in litres.

CAPACITY

Subtracting Capacity in Litres

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to subtract capacity in litres.

Learning Resources

- 1 litre container
- Water
- Containers of different capacities.

Key Inquiry Question

How do we subtract capacity in litres?

Learning Activities

1. Provide learners in pairs or in groups with water and containers of different capacities. Ask learners to discuss and come up with different ways of subtracting capacity.
2. Guide learners in pairs or in groups to measure capacity of the containers and record. Learners with blindness could work with sighted guides accompanied by verbal instructions. Discuss safety precautions when handling resources and materials.
3. Learners in pairs or groups to remove some litres of water from containers in activity two (2) and pour it into other containers.
4. Learners measure the amount of water that remained in containers in activity three (3), record and share their experiences.
5. Using the example in the learner's book in the corresponding braille page, guide learners to subtract capacity in litres.
6. Learners play digital games involving capacity. Provide learners with digital devices with embossed keyboard and voice out put



Work to do

Learners to work out questions from the learner's book in the corresponding braille page

Week 7 Lesson 3

CAPACITY

Estimating Capacity

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to estimate capacity up to 5 litres.

Learning Resources

- 1 litre containers
- Water
- Containers of different capacities

Key Inquiry Question

How do we tell the capacity of a container without measuring?

Learning Activities

1. Provide learners in pairs or in groups with water and containers of different capacities. Learners with blindness could work with sighted guides accompanied by verbal instructions. Ask learners to estimate capacity of the containers and record their estimation.
2. Guide learners in pairs or in groups to measure capacity of the containers in activity (1) and record alongside their estimation. Discuss safety precautions when handling resources and materials.
3. Learners in groups identify the difference between the estimates and the actual capacity.
4. Using the example in the learner's book in the corresponding braille page, guide learners to estimate capacity in litres.

5. Provide learners with digital devices with embossed keyboard and voice output.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page. Learners with blindness could work with sighted guide to measure capacity of containers.

TIME

Time - 2 lessons

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 which include hours, minutes and seconds. In this sub strand, reading and telling of time involves both the analogue and digital clocks. When dealing with addition and subtraction of units of time, the teacher should bring out real life experiences in which duration of time can be comprehended. Estimation of time is an important aspect in day to day life hence learners should be involved in estimating time durations.

Learners are expected to work in pairs or groups in order to learn from each other which would lead to the development of core competencies. The teacher should bring out 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 for example unit, respect, patriotism and responsibility among others. The teacher should involve learners in non-formal activities including cleaning their classroom during free time. The teacher may also discuss how the time concept is linked to Language activities and Religious activities. As a form of community service learning activity learners could assist their neighbours in keeping their compounds clean during school holidays.



TIME

Adding Time in Hours and Minutes

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to add time involving hours and minutes without conversion in real life situations.

Learning Resources

- Tactile clock face

Key Inquiry Question

How do we add time in hours and minutes?

Learning Activities

1. Guide learners in pairs or groups to discuss the different activities that they engage in and time taken to complete them.
2. Learners in pairs or groups discuss how to work out time taken to carry out different activities.
3. Discuss with learners how to work out time durations involving hours and minutes without conversion in real life situations.
4. Using examples in the learner's book in the corresponding braille page, guide learners to work out time durations involving hours and minutes without conversion in real life situations.
5. Learners to play digital games involving time. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.

TIME

Subtracting Time in Hours and Minutes

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to subtract time involving hours and minutes without conversion in real life situations.

Learning Resources

- Tactile clock face

Key Inquiry Question

How do we subtract time in hours and minutes?

Learning Activities

1. Guide learners in pairs or groups to discuss the different activities that they engage in and times taken to complete them; noting the activities that take a shorter or a longer time.
2. Learners in pairs or groups discuss how to work out the time difference in performing activities.
3. Discuss with learners how to subtract time involving hours and minutes without conversion in real life situations.
4. Using the example in the learner's book in the corresponding braille page, guide learners to subtract time involving hours and minutes without conversion in real life situations.
5. Learners to play digital games involving time. Provide learners with digital devices with embossed keyboard and voice out put

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.



MONEY

Time - 3 lessons

Background Information

The teaching of money begins with the learners being guided to identify the different currency coins and notes. In earlier grades learners perform shopping activities which lead to differentiating concepts like balance and change. Later learners are expected to be able to relate a given amount of money to goods and services.

This sub strand also includes needs and wants as well as spending and saving which learners need to understand to be able to make meaningful decisions on money issues.

Learners are expected to work in pairs or groups in order to learn from each other which would lead to the development of core competencies. The teacher should bring out 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 for example 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 Language, Environmental and Religious activities. As a community service activity to support learning, learners assist in counting money offered in religious and non-religious functions.

MONEY

Relating Money To Goods And Services

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to relate money to goods and services up to sh. 1000.

Learning Resources

- Kenyan currency notes and coins
- Assorted items from the classroom shop

Key Inquiry Question

How do we acquire goods and services?

Learning Activities

1. Learners in pairs or groups to share experiences on the prices of common goods and services.
2. Guide learners in pairs or groups in placing price tags on assorted goods from the classroom shop. Learners with blindness could work with sighted guides accompanied by verbal instructions.
3. Discuss with learners the difference between goods and services.
4. Using the examples in the learner's book in the corresponding braille page, guide learners to discuss and relate money to goods and services up to sh. 1000.
5. Learners play digital games involving money. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from pupils' book in the corresponding braille page.



MONEY

Needs and Wants

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to differentiate between needs and wants.

Learning Resources

- Real objects

Key Inquiry Question

What is the difference between needs and wants?

Learning Activities

1. Take Learners outside the classroom. In pairs or groups ask learners to list down the things that they know in the neighborhood that they use in daily life. Learners with blindness could work with sighted guides accompanied by verbal instructions.
2. Discuss with learners items from their list which they cannot do without and those that they desire but can do without.
3. Discuss with learners how to spend money on needs and wants according to priority.
4. Using the example in the learner's book in the corresponding braille page, guide learners to identify needs and wants.
5. Learners to play digital games involving money. Provide learners with digital devices with embossed keyboard and voice out put.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.

MONEY

Spending and Saving Money

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to make decisions on spending and saving money in real life situations.

Learning Resources

- Kenyan currency coins and notes

Key Inquiry Question

What do you consider when you need to spend and save money?

Learning Activities

1. Learners in pairs or groups to discuss what they would do with a gift of sh.1000.
2. Ask learners to discuss in pairs what they would consider before spending money and how much to save.
3. Learners to share experiences in activity two (2) on spending and saving money with other groups.
4. Using the example in the learner's book in the corresponding braille page, guide learners through a discussion on spending and saving.
5. Provide learners with digital devices with embossed keyboard and voice output.

Work to do

Learners to work out questions from the learner's book in the corresponding braille page.



General Learning Outcome

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

POSITION AND DIRECTION**Time - 1 lesson****Background Information**

The learning of geometry starts with the learners modeling straight and curved lines. Position and direction is an important aspect in our day to day life hence the need to consider this in this sub strand. It is expected that the learners will be able to follow instructions on moving straight, turning right or left and even guide people to follow directions to get to a destination.

Learners are expected to work in pairs or groups in order to learn from each other which would lead to the development of core competencies. The teacher should bring out 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 for example unity, respect, patriotism and responsibility among others. The teacher should involve learners in non-formal activities including arranging seats in straight lines in the classroom. The teacher may also discuss how the position and direction concept is linked to Movement and creative and Environmental activities. As a community service activity to support learning learners could assist in arranging seats in straight lines in community functions.

Week 8 Lesson 4**POSITION AND DIRECTION****Turning to the Right and to the Left from a Point****Specific Lesson Learning Outcome**

By the end of the lesson, the learner should be able to turn to the right and to the left from a point.

Learning Resources

- School compound
- Landmarks

Key Inquiry Question

What do you do when you get to a road junction?

Learning Activities

1. Guide learners in pairs or groups to discuss the direction to take after reaching a road junction. Learners to write possible directions to take at a road junction.
2. The teacher to take learners for an outdoor activity involving turning right or left. Learners with blindness could work with sighted guides accompanied by verbal instructions. Discuss safety precautions when performing the activity.
3. Using examples in the learner's book in the corresponding braille page, guide learners to turn right or left from a point in real life situations.
4. Learners to play digital games involving position and direction. Provide learners with digital devices with embossed keyboard and voice out put

Work to do

Learners to work out questions from the learner's book in the corresponding braille page. Learners with blindness could work with sighted guide to use landmarks to turn right or left.

SHAPES

Time - 1 lesson

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. Later they are able to identify different shapes and make patterns using them. The concept of making patterns is further developed in this sub strand and learners may pick it up and get involved in making patterns on cloths or belts, a business venture in their free time, later in life.

Learners are expected to work in pairs or groups in order to learn from each other which would lead to the development of core competencies. The teacher should bring out 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 for example unity, respect, patriotism and responsibility among others. The teacher should involve learners in non-formal activities including 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 made on paper and other materials as a way of community service learning.

Week 8 Lesson 5

SHAPES

Geometric Patterns

Specific Lesson Learning Outcome

By the end of the lesson, the learner should be able to make patterns using geometric shapes.

Learning Resources

Cutouts of rectangles, circles, triangles, ovals and squares

Key Inquiry Question

What shapes can you identify in your school?

Learning Activities

1. Learners in pairs to identify different shapes.
2. Learners to cut out different shapes. Learners with blindness could work with sighted guides accompanied by verbal instructions.

3. Learners in pairs to make patterns using different shapes. Provide learners with patterns of shapes, as 3 circles, 1 rectangle, 1 triangle, 1 rectangle, 1 triangle.
4. Using the example in the learner's book in the corresponding braille page, guide learners to make patterns using different shapes.
5. Learners to play digital games involving shapes. Provide learners with digital devices with embossed keyboard and voice out put

Work to do

Learners to work out questions from the learner's book in the corresponding braille page. Provide learners with patterns of shapes as follows :-

- 1) 1 circle , 3 rectangles, 1 circle, 3 rectangles, 1 circle _____
- 2) 2 triangles, 1 circles, 2 triangle, 1 circle, _____
- 3) 1 rectangle, 1 circle, 1 square, 1 rectangle, 1 circle,
1 square _____
- 4) 1 rectangle, 2 circle,1 rectangle, 2 circles, 1 square _____
- 5) 2 ovals, 2 triangles, 2 circles _____



ANSWERS FOR TERM 3

WEEK 1 LESSON 1

Twelfth	12
Thirteenth	13
Fourteenth	14
Nineteenth	19
Fifteenth	15
Sixteenth	16
Seventeenth	17
Eighteenth	18
Twentieth	20

Position of the balloons coloured red

2nd 4th 6th 8th 12th 14th

WEEK 1 LESSON 2

16	-	16 th
17	-	17 th
18	-	18 th
19	-	19 th
20	-	20 th

WEEK 1 LESSON 3

1. 320, 330, 340
2. 320, 310, 300
3. 530, 520, 510
4. 810, 820, 830
5. 920, 930, 940

WEEK 1 LESSON 4

Work to do

- | | | | | |
|-----|-------------|------------|--------|--------|
| 1. | 2 hundreds | 0 tens | 5 Ones | |
| 2. | 9 hundreds | 8 tens | 3 Ones | |
| 3. | 4 hundreds | 5 tens | 6 Ones | |
| 4. | 7 thousands | 2 hundreds | 9 tens | 1 ones |
| 5. | 8 thousands | 4 hundreds | 5 tens | 7 ones |
| 6. | 1 thousands | 3 hundreds | 4 tens | 9 ones |
| 7. | 5 thousands | 9 hundreds | 8 tens | 6 ones |
| 8. | 3 thousands | 5 hundreds | 4 tens | 6 ones |
| 9. | 5 hundreds | 2 tens | 1 Ones | |
| 10. | 1 thousands | 0 hundreds | 3 tens | 5 ones |

WEEK 1

LESSON 5

→ A reading lesson ←

WEEK 2

LESSON 1

Number

Words

- | | |
|---------------|---------------------|
| 1. 66 | Sixty six |
| 2. 27 | twenty seven |
| 3. 58 | fifty eight |
| 4. 98 | ninety eight |
| 5. 19 | nineteen |
| 6. 59 | Fifty nine |
| 7. 99 | ninety nine |
| 8. 100 | One hundred |



WEEK 2 LESSON 2

26, 25, 24

131, 132, 133

438, 440, 442

740, 730, 720

780, 830, 880

213, 208, 203

WEEK 2 LESSON 3

$\frac{1}{8}$, $\frac{1}{4}$, $\frac{1}{2}$

$\frac{1}{2}$ is bigger than $\frac{1}{8}$

$\frac{1}{2}$ is bigger than $\frac{1}{4}$

$\frac{1}{4}$ is bigger than $\frac{1}{8}$

WEEK 2 LESSON 4

Which fraction is bigger?

1. $\frac{1}{2}$ of 20
2. $\frac{1}{2}$ of 16
3. $\frac{1}{2}$ of 12
4. $\frac{1}{2}$ of 24
5. $\frac{1}{2}$ of 32

WEEK 2 LESSON 5

1. 439
2. 249
3. 459
4. 659

5. 259
6. 628
7. 789
8. 929
9. 808 goats
10. 109 packets

WEEK 3 LESSON 1

1. 659
2. 268
3. 460
4. 648
5. 999
6. 986
7. 896
8. 794
9. 690
10. 197 bottles
11. 266 packets

WEEK 3 LESSON 2

1. 133
2. 222
3. 335
4. 490
5. 695
6. 722
7. 533
8. 681
9. 926



10. 990
11. 111 buttons
12. 174

WEEK 3 LESSON 3

1. 317
2. 419
3. 719
4. 745
5. 609
6. 839
7. 919
8. 316
9. 327
10. 266

WEEK 3 LESSON 4

1. 15
2. 18
3. 17
4. 21
5. 24
6. 27
7. 13
8. 21
9. 21
10. 24

WEEK 3 LESSON 5

1. 798
2. 989

3. 997
4. 735
5. 997
6. 589
7. 998
8. 585
9. 988
10. 728

WEEK 4 LESSON 1

1. 774
2. 491
3. 492
4. 519
5. 303
6. 693
7. 765
8. 419
9. 419
10. 749

WEEK 4 LESSON 2

1. 320, 330, 340, 350, 360
2. 550, 650, 750, 850, 950
3. 630, 680, 730, 780, 830
4. 811, 816, 821, 826, 831
5. 460, 480, 500, 520, 540



WEEK 4 LESSON 3

1. 326
2. 244
3. 131
4. 426
5. 554
6. 971
7. 617
8. 624
9. 112 Women

WEEK 4 LESSON 4

1. 63
2. 285
3. 297
4. 671
5. 381
6. 796
7. 851
8. 433
9. 283
10. 361

WEEK 4 LESSON 5

1. 286
2. 61
3. 482
4. 363
5. 395
6. 292

7. 185
8. 375
9. 163
10. 170

WEEK 5 LESSON 1

1. 160
2. 710
3. 120
4. 220
5. 710
6. 510
7. 120
8. 430
9. 530
10. 720 passengers

WEEK 5 LESSON 2

1. 235, 160
2. 400, 340
3. 150, 100
4. 350, 125
5. 610, 550
6. 250, 100
7. 200, 120

WEEK 5 LESSON 3

1. 32
2. 80
3. 50



4. 64
5. 27
6. 63
7. 72
8. 20
9. 18
10. 9

WEEK 5 LESSON 4

1.

X	1	2	3	4	5
8	8	16	24	32	40
9	9	18	27	36	45
10	10	20	30	40	50

2. = 72
3. = 45
4. = 80
5. = 81

WEEK 5 LESSON 5

1. 90 apples
2. 40 litres of milk
3. 72 packets
4. 50 rows of cabbage
5. 32 windows

WEEK 6 LESSON 1

1. 8
2. 9
3. 9

4. 9
5. 9
6. 7
7. 6
8. 9
9. 8

WEEK 6 LESSON 2

1. sh, 8
2. 80 oranges
3. 9 fish
4. 4 biscuits
5. 8 eggs
6. 7 bananas

WEEK 6 LESSON 3

1. 13 metres
2. 2 metres
3. 810 metres
4. 130 metres
5. 240 metres

WEEK 6 LESSON 4

- | | | |
|----------|-----------|----------|
| 1. 22 kg | 4. 130 kg | 7. 47 kg |
| 2. 53 kg | 5. 45 kg | 8. 22 kg |
| 3. 69 kg | 6. 8 kg | |

WEEK 6 LESSON 5



15 kg of meat
7kg remained
12kg of potatoes
22kg remained
70kg

WEEK 7 LESSON 1

Ensure learners, measure the containers accurately, mark the correct answer

WEEK 7 LESSON 2

1. 34 Litres
2. 371 Litres
3. 344 Litres
4. 383 Litres
5. 372 Litres

WEEK 7 LESSON 3

Container	Estimates in Litres	Actual Litres	Was the estimate accurate?
A			
B			
C			
D			

Ensure that learners measure the actual Litres accurately, mark and give follow-up

WEEK 7 LESSON 5

1. 1 hours 22 minutes
2. 1 hours 5 minutes
3. 1 hours 10 minutes

WEEK 8 LESSON 1

Item	Good or Service
Transport	- service
Cloth repair	- service
Book	- Good
Pencil	- good
School sweater	- good
Shoe Repair	- service

WEEK 8 LESSON 2

	Item	needs	Wants
a	Bicycle		
b	Car		
c	Chair		
d	Table		
e	Pencils		
f	Duster		
g	watch		
h	Clothes		
i	Toy		
j	House		
k	Book		
l	Food		

N. B. The teacher should note that needs and wants are relative and should therefore mark above exercise with caution.

WEEK 8 LESSON 3

	Shillings before spending	Spending in shillings	Savings in shillings
1	500	300	200
2	1000	400	600
3	650	250	400
4	500	400	100
5	200	150	50



6	400	350	50
7	1000	400	300
8	700	300	400
9	800	500	300
10	900	400	500

WEEK 8 LESSON 4

1. Guide learners to use landmarks in the to turn right accordingly.

WEEK 8 LESSON 5

Guide learners to complete the given patterns accordingly.

Appendix 1

Sample Scheme of Work

SCHOOL Grade Learning area Term YEAR

LEARNING AREA.....

Week	Lesson	Strand	Sub-strand	Specific learning outcome			
				Key inquiry Question.			
				Learning experiences	Learning resources	Assessment	Reflections



Appendix 2

LESSON PLAN TEMPLATE

SCHOOL GRADE DATE TIME ROLL

Strand.....
Sub-strand
Specific Learning
Outcome.....
Key Inquiry Question
Core competencies be
developed.....
PCIs
Values
Learning Resources.....
Organization of learning.....
Introduction (Assessment for Learning)
.....
Lesson development (Assessment as Learning)
Step
1.....
2.....
3.....

Conclusion (Assessment of Learning)
.....
Sum-

