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GROWING GAUTENG TOGETHER

Xitsonga/English

Nongonoko wa Antswiso wa Matematiki wa Giredi ya V Grade R Mathematics Improvement Programme



**Ndzetelavutivi wa 1 • Workshop 1
Xiletelo xa Muhumelerisi • Facilitator's Guide**

The Grade R Mathematics and Language Improvement Project is an initiative of the **Gauteng Department of Education** and its key partner, the **Gauteng Education Development Trust**.

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The Grade R Mathematics and Language Improvement Project is managed by **JET Education Services** with **UCT's Schools Development Unit** and **Wordworks** as technical partners.

The **Schools Development Unit (SDU)** at the **University of Cape Town (UCT)** is the mathematics technical partner to the Grade R Mathematics and Language Improvement Project. The SDU is a unit within UCT's School of Education that focuses on teachers' professional development in Mathematics, Science, Literacy/Language and Life Skills from Grade R to Grade 12. The SDU offers teacher qualifications and approved UCT short courses, school-based work, materials development and research to support teaching and learning in all South African contexts.

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Phurojeke ya Antswiso wa Matematiki na Tindzimi ya Giredi ya V i matshalatshala ya **Ndzawulo ya Dyondzo ya Gauteng (Gauteng Department of Education)** na mutirhisankulu wa yona, **Gauteng Education Development Trust**.

Nhluvukiso na vuhumelerisi bya swipfuno swa vuleteri na swa le kamareni ro dyondzela swa Phurojeke ya Antswiso wa Matematiki na Tindzimi ya Giredi ya V swi endlwile swi koteka hi timali ta tiphurojeke to hananiwa kusuka eka **United States Agency for International Development** na **Zenex Foundation**.

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Schools Development Unit (SDU) leyi nga eka **University of Cape Town (UCT)** i mutirhisani wa xithekiniki wa matematiki eka Phurojeke ya Antswiso wa Matematiki na Tindzimi ya Giredi ya V. SDU i yuniti leyi kumekaka eka School of Education ya le UCT leyi yi kongomisaka eka nhluvukiso wa xiphurofexinali wa vadyondzisi eka Matematiki, Sayense, Litheresi/Ririmi na Swikili swa Vutomi kusuka eka Giredi ya V kufika eka Giredi ya 12. SDU yi nyika mithwaso ya vudyondzisi na tikhoso to koma ta UCT leti pfumeleriweke, ntirho lowu kumekaka exikolweni, nhluvukiso wa timatheriyali na ndzavisiso ku seketela madyondziselo na madyondzelo eka mivangu ya Afrika-Dzonga hinkwayo.

SWIKHENSO

Ku khensa ko hlawuleka eka:

- Vakulukumba va Ndzawulotsongo ya Kharikhulamu, Dyondzo ya Vadyondzisi na Dyondzo yo Hlawuleka ta Ndzawulo ya Dyondzo ya Gauteng eka vuhoxaxandla bya vona ku fambelanisa matheriyali wa hina.
- Vakulukumba na vadyondzisi va Western Cape Education Department (WCED) eka vuhoxaxandla bya vona eka nsimeko lowu humeleleke wa Grade R Mathematics Programme (R-Maths) eKapa-Vupeladyambu exikarhi ka 2016 na 2019.
- Xipano xo tsala xa *R-Maths*: Vatirhi na vatsundzuxi va SDU.



Nongonoko wa Antswiso wa Matematiki wa Giredi ya V wu fambelanisiwile kusuka eka *R-Maths*, wu kandziyisiwile rosungula hi 2017 hi Schools Development Unit, University of Cape Town. Mfaneloxinawu ya mutumbuluxi ya *R-Maths* yi khomiwile hi University of Cape Town.

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Contents

Overview

Purpose	page 6
Learning outcomes	page 6
Workshop content	page 6
House rules	page 8
Preparation	page 8
Materials	page 8

Workshop content

Session 1: Orientation to the Maths Programme	page 10
Session 2: Numbers, Operations and Relationships	page 38
Session 3: Implementing the five-group teaching model	page 54
Appendix A: The Guiding Principles of Teaching Maths in Grade R	page 66
Appendix B: Term 1 Weekly Content Summary (Weeks 1–2)	page 70
Appendix C: Number 1 frieze cards	page 72
Workshop 1 Evaluation Form	page 76

Leswi nga endzeni

Nkatsakanyo

Xikongomelo	pheji ya 7
Mivuyelo ya dyondzo	pheji ya 7
Vundzeni bya ndzetelavutivi	pheji ya 7
Milawu ya yindlu	pheji ya 9
Malulamiselo	pheji ya 9
Timatheriyali	pheji ya 9

Vundzeni bya ndzetelavutivi

Sexini ya 1: Ntiviso eka Nongonoko wa Matematiki	pheji ya 11
Sexini ya 2: Tinomboro, Tioparexini na Vuxaka	pheji ya 39
Sexini ya 3: Ku tirhisa modlolo wa madyondziselo ya mitawu leya ntlhanu	pheji ya 55

Xiengetelwa xa A: Milawu yo Letela ya ku Dyondzisa Matematiki eka

Giredi ya V	pheji ya 67
-------------------	-------------

Xiengetelwa xa B: Nkomiso wa Vundzeni wa Vhiki na Vhiki wa

Kotara ya 1 (Mavhiki ya 1–2)	pheji ya 71
------------------------------------	-------------

Xiengetelwa xa C: Makhadi ya swipendziwankaviso swa nomboro ya 1

Fomo ya Nkambelo ya Ndzetelavutivi wa 1	pheji ya 77
---	-------------

Overview

Purpose

This is the first of twelve Grade R Mathematics Improvement Programme (Maths Programme) workshops, which form part of the Gauteng Department of Education (GDE) Grade R Mathematics and Language Improvement Project.

Participants will receive information on the components and guiding principles of teaching mathematics in Grade R. They will reflect on and discuss these within the context of their own planning and teaching. Participants will also review the Curriculum and Assessment Policy Statement (CAPS) Grade R Mathematics Content Areas. They will plan the daily programme Mathematics focus time for the first two weeks of Term 1. Throughout the workshop they will reflect on the guiding principles that inform teaching and learning.

*Grade R Mathematics Content Areas are taken from the *Curriculum and Assessment Policy Statement (CAPS): Grade R Mathematics (Final Draft)*, 2011, Department of Basic Education, South Africa

Mathematics is the formal subject name, but in this *Facilitator's Guide* and during our discussions we will refer to it as 'maths'. (Read more about this on page 10 of the *Concept Guide*.)

Learning outcomes

- ◆ To become familiar with the Maths Programme and how it supports and extends the content of CAPS Grade R Mathematics
- ◆ To explore the components of the Maths Programme
- ◆ To understand the teaching principles presented in the Maths Programme
- ◆ To plan a Term 1 week based on the five-group teaching model
- ◆ To engage with the Maths Programme content of Term 1 Weeks 1–2 (Numbers, Operations and Relationships)

Workshop content

- ◆ Session 1: Orientation to the Maths Programme (2 hours)
TEA
- ◆ Session 2: Numbers, Operations and Relationships (2 hours)
LUNCH
- ◆ Session 3: Implementing the five-group teaching model (2 hours)

Nkatsakanyo

Xikongomelo

Lowu i wo sungula wa khumembirhi ya miletelavutivi ya Nongonoko wa Antswiso wa Matematiki wa Giredi ya V (Nongonoko wa Matematiki), leyi yi vumbaka xiphemu xa Phurojeke ya Antswiso wa Matematiki na Tindzimi ya Giredi ya V ya Ndzawulo ya Dyondzo ya Gauteng (Gauteng Department of Education) (GDE).

Vatekaxiave va ta kuma vuxokoxoko hi mayelana na swiphemutsongo na milawu yo letela ya ku dyondzisa matematiki eka Giredi ya V. Va ta ehleketisisa na ku kana leswi endzeni ka mbangu wa nkunguhato na madyondziselo ya vona vini. Vatekaxiave va ta tlhela va kambisisa Swiyenge swa Vundzeni swa Xitatimente xa Pholisi ya Kharikhulamu na Makambeleso (XIPHOKHAMA) ya Matematiki wa Giredi ya V swa Xitatimente xa Pholisi ya Kharikhulamu na Makambeleso (XIPHOKHAMA). Va ta kunguhata nkarhi wa nkongomo wa nongonoko wa Matematiki wa siku na siku wa mavhiki mambirhi lamo sungula ya Kotara ya 1. Hi nkarhi wa ndzetelavutivi hinkwawo va ta ehleketisisa hi mayelana na milawu yo letela leyi yi letelaka madyondziselo na madyondzelo.

**Swiyenge swa Vundzeni swa Matematiki wa Giredi ya V swi tekiwa kusuka eka Xitatimente xa Pholisi ya Kharikhulamu na Makambeleso (XIPHOKHAMA: Matematiki wa Giredi ya V (Mpfapfarhuto wo Hetelela), 2011, Ndzawulo ya Dyondzo ya Masungulo, Afrika-Dzonga*

Mivuyelo ya dyondzo

- ◆ Ku kota ku tiva Nongonoko wa Matematiki na hilaha wu seketelaka na ku ndlandlamukisa hakona vundzeni bya XIPHOKHAMA xa Matematiki wa Giredi ya V
- ◆ Ku valanga swiphemutsongo swa Nongonoko wa Matematiki
- ◆ Ku twisisa milawu ya madyondziselo lama andlariweke eka Nongonoko wa Matematiki
- ◆ Ku kunguhata vhiki ra Kotara ya 1 hi ku ya hi modlolo wa madyondziselo ya mitlawa ya ntlhanu
- ◆ Ku tirhana na vundzeni bya Nongonoko wa Matematiki wa Mavhiki ya 1–2 ya Kotara ya 1 (Tinomboro, Tioparexini na Vuxaka)

Vundzeni bya ndzetelavutivi

- ◆ Sexini ya 1: Ntiviso eka Nongonoko wa Matematiki (2 wa tiawara)
TIYA
- ◆ Sexini ya 2: Tinomboro, Tioparexini na Vuxaka (2 wa tiawara)
LANCI
- ◆ Sexini ya 3: Ku tirhisa modlolo wa madyondziselo ya milawu leya ntlhanu (2 wa tiawara)

House rules

- ◆ Be punctual.
- ◆ Turn off your cellphone during sessions.
- ◆ Give everyone a chance to participate.
- ◆ Listen to each other's ideas.

Preparation

- ◆ PPT presentations
- ◆ Read:
Concept Guide, pages 114–117
Activity Guide: Term 1, pages 18–21
Appendix B: Term 1 Weekly Content Summary
- ◆ Set out a Maths Programme *Resource Kit*, kokis and paper on each group's table.
- ◆ Prepare the number frieze story and gather materials.
- ◆ Make a house template on a large sheet of flipchart paper – draw a house shape divided into four parts.
- ◆ Colour in the Number 1 frieze cards in Appendix C. Glue them onto cardboard.

Materials

- ◆ Attendance register
- ◆ Flipchart paper, kokis
- ◆ Copies of the *Participant's Workbook*, *Concept Guide* and *Activity Guide: Term 1*
- ◆ *Resource Kits*
- ◆ Puzzle pieces
- ◆ Number frieze house template and frieze cards

Milawu ya yindlu

- ◆ Fika hi nkarhi.
- ◆ Tima selifoni ya wena hi nkarhi wa tisexini.
- ◆ Nyika munhu un'wana na un'wana nkarhi wa ku teka xiave.
- ◆ Yingiselanani mianakanyo ya n'wina.

Malulamiso

- ◆ Miandlalo ya PPT
- ◆ Hlaya:

Xiletelo xa Minongoti, tipheji ta 114–117

Xiletelo xa Migingiriko: Kotara ya 1, tipheji ta 18–21

Xiengetelwa xa B: Nkomiso wa Vundzeni wa Vhiki na Vhiki wa Kotara ya 1

- ◆ Nongonoko wa Matematiki *Khiti ya Swipfuno*, tikhoki na phepha eka tafula ra ntlawa wun'wana na wun'wana.
- ◆ Lulamisa xitori xa swipendiwankhaviswa swa tinomboro na ku hlengeleta timatheriyali.
- ◆ Endla thempuleti ya yindlu eka xipandzu lexikulu xa phepha ra chati yo pfula – dirowa xivumbeko xa yindlu leyi avanyisiweke hi mune wa swiphemu.
- ◆ Penda endzeni ka makhadi ya xipendiwankhaviswa xa Nomboro ya 1 eka Xiengetelwa xa C. Ma namarheti ehenhla ka khadibodo.

Timatheriyali

- ◆ Rhijisitara ra matelo
- ◆ Phepha ra chati yo pfula, tikhoki
- ◆ Tikopi ta *Buku ya Ntirho ya Vatekaxiave*, *Xiletelo xa Minongoti* na *Xiletelo xa Migingiriko: Kotara ya 1*
- ◆ *Tikhiti ta Swipfuno*
- ◆ Swiphemu swa swiphazamiso
- ◆ Thempuleti ya yindlu ya xipendiwankhaviswa xa tinomboro na makhadi ya xipendiwankhaviswa xa tinomboro

Session 1: Orientation to the Maths Programme

2 hours

Facilitator's notes

- ◆ Participants should be seated in small groups of six to eight people. Observe COVID-19 protocols.
- ◆ Give each person a *Participant's Workbook* and the attendance register.
- ◆ Welcome the participants and introduce yourself.
- ◆ Discuss the house rules for working together during all workshops (see page 8).
- ◆ Give participants an opportunity to introduce themselves in their small groups and then to the whole group.
- ◆ Encourage them to share their training and teaching experiences.
- ◆ Invite participants to share their expectations of the workshop.

Registration

Welcome and house rules

(10 minutes)

Welcome to the first of twelve maths workshops for the Gauteng Department of Education (GDE) Grade R Mathematics and Language Improvement Project.

Let's start with an introduction to the presenters and agree on a set of house rules.

Sharing teaching experiences

(15 minutes)



Activity 2

1. Take some time to reflect on your experience of teaching Grade R, especially teaching maths in Grade R. Think about your training and how it prepared you for maths teaching. Also try to identify your strengths and weaknesses in maths.

2. Share some of your good experiences and bad experiences with a partner.
3. Choose one person from your group to capture the thoughts that everyone shared.

Sexini ya 1: Ntiviso eka Nongonoko wa Matematiki

2 wa tiawara

Tinotsi ta muhumelerisi

- ◆ Vatekaxiave va fanele ku tshamisiwa hi mitlawa leyitsongo ya tsevu kufika eka nhungu wa vanhu. Landzelelani milawu ya COVID-19.
- ◆ Nyika munhu un'wana na un'wana *Buku ya Ntirho ya Vatekaxiave* na rhijisitara ra matelo.
- ◆ Amukela vatekaxiave kutani u titivisa.
- ◆ Kanelani milawu ya yindlu ya ku tirhisana hi nkarhi wa miletelovutivi hinkwayo (vona pheji ya 8).
- ◆ Nyika vatekaxiave nkarhi wa ku titivisa va ri eka mitlawa ya vona leyitsongo kutani endzhaku ka swona eka ntlawa hinkwawo.
- ◆ Va khutazi ku avelana mitokoto ya vona ya vuleteri na ya madyondziselu.
- ◆ Rhamba vatekaxiave ku avelana swilanguteriwa swa vona swa ndzetelavutivi lowu.

Ntsariso

Ku amukela na milawu ya yindlu

(10 ra timinete)

Ha mi amukela eka wo sungula wa khumembirhi ya miletelovutivi ya matematiki ya Phurojeke ya Antswiso wa Matematiki na Tindzimi ya Giredi ya V ya Ndzawulo ya Dyondzo ya Gauteng (Gauteng Department of Education) (GDE).

A hi sunguleni hi ntiviso wa vaandlari kutani hi pfumelelana hi xikatsa xa milawu ya yindlu.

Ku avelana mitokoto yo dyondzisa

(15 wa timinete)



Nghingiriko wa 2

1. Teka nkarhinyana ku ehleketisisa hi ntokoto wa wena wa ku dyondzisa Giredi ya V, ngopfungopfu ku dyondzisa matematiki eka Giredi ya V. Ehleketa hi mayelana na vuleteri bya wena na hilaha byi ku lulamiseleke hakona eka ku dyondzisa matematiki. Tlhela u ringeta ku kuma matimba na mitsano ya wena eka matematiki.

-
-
-
2. Avelanani yin'wana ya mitokoto ya wena ya kahle na mitokoto ya wena yo biha na mutirhisani wa wena.
 3. Hlawulani munhu un'we kusuka eka ntlawa wa n'wina ku rhekoda miehleketo leyi munhu un'wana na un'wana a yi avelanaka.

Why a Maths Programme for Grade R?

Facilitator's notes

- ◆ PPT: Summary of the information below.
- ◆ Discuss the importance of improving maths learning and teaching in the Foundation Phase. Introduce the GDE Grade R Mathematics Improvement Programme as an intervention to enhance the implementation of the CAPS curriculum for Grade R.

Many South African primary school learners underperform in Language and Mathematics. A high percentage of learners fail to achieve even the minimum expected standards in these core subjects. There has been slow progress in the improvement of educational outcomes and in narrowing the achievement gap between learners from different backgrounds. The reasons for this are complex, go beyond the classroom and are affected by children's development and well-being from birth.

One of the critical issues around preschool access and attendance, as well as infrastructure and school management in South Africa, has been the fundamental questions about what and how children are learning. In order for all children to have a better chance of fulfilling their potential in Mathematics, the focus must broaden to include maths development in Grade R and, crucially, to provide Grade R teachers and practitioners with the knowledge and skills needed to support young children's maths learning.

The GDE identified Early Childhood Development as its Strategic Goal 1 and one of its key goals is to improve Home Language and Mathematics learning in Grade R. Through the Grade R Mathematics and Language Improvement Programme, the GDE is striving to improve performance in Grade R and prepare learners for Grade 1.

We believe that the Maths Programme will make an important contribution to the implementation of CAPS and that it will enhance the existing learning opportunities for all learners in Grade R so that they develop to their full potential.

What is the Grade R Maths Programme?

Facilitator's notes

- ◆ PPT: Page 10 of the *Concept Guide*, summary of the information below.

The Maths Programme focuses on teaching and learning one maths concept or topic at a time. The main focus of each week is on one CAPS Content Area. New knowledge is introduced through:

Hikwalahokayini ku va na Nongonoko wa Matematiki eka Giredi ya V?

Tinotsi ta muhumelerisi

- ◆ PPT: Nkomiso wa vuxokoxoko lebyi nga laha hansi.
- ◆ Kanelani nkoka wa ku antswisa madyondzelo na madyondziselo ya matematiki eka Xiyimo xa Masungulo. Tivisa Nongonoko wa Antswiso wa Matematiki wa Giredi ya V ya GDE tanihi mphalalo ku tiyisa ku tirhisiwa ka kharikhulamu ya XIPHOKHAMA eka Giredi ya V.

Vadyondzi vo tala va le xikolweni xa phurayimari va le Afrika-Dzonga va tirha hi xiyimo xa le hansi eka Ririmi na Matematiki. Nhlayo hi tiphesente ta le henhla ta vadyondzi va hluleka ku fikelela hambu mipimo leyi languteriwaka ya mpimohansi eka tidyondzokulu leti. Ku vile na ku ya emahlweni ko nonoka eka antswiso wa mivuyelo ya dyondzo na ku pfariwa ka vangwa ra mfikelelo exikarhi ka vadyondzi kusuka eka vundzhaku byo hambanahambana. Swivangelo swa leswi swi pfilunganile, swi humela ehandle ka kamara ro dyondzela naswona swi khumbiwa hi ku kula na ku hanya kahle ka vana kusuka eku velekiweni.

Yin'wana ya timhaka ta nkoka swonghasi hi mayelana na mfikelelo wa xikolo xa tindzumulo na matelo, xikan'we na swimakiwakulu na malawulelo ya xikolo eAfrika-Dzonga, ku vile swivutiso swa masungulo hi mayelana na leswi vana va swi dyondzaka na hilaha va dyondzaka kona. Hi xikongomelo xa leswaku vana hinkwavo va kuma xivandlanene xo antswa xa ku humelerisa vuswikoti bya vona eka Matematiki, nkongomo wu boheka ku anama ku kota ku katsa nhluvukiso wa matematiki eka Giredi ya V na, swa nkoka swinene, ku nyika vadyondzisi va Giredi ya V na vatirhi lava nga na vutivi a swikili leswi lavekaka ku seketela ku dyondza matematiki ka vana lavatsongo.

GDE yi kume Nhluvukiso wa Dyondzo ya Tindzumulo tanihi Xikongomelokulu xa Xiqhinga xa 1 naswona xin'wana xa swikongomelokulu swa wona swa nkoka i ku antswisa madyondzelo ya Ririmi ra le Kaya na Matematiki eka Giredi ya V. Hi ku tirhisa Nongonoko wa Antswiso wa Matematiki na Tindzimi wa Giredi ya V, GDE yi tikarhatela ku antswisa matirhelo eka Giredi ya V na ku lulamisela vadyondzi ku ya eka Giredi ya 1.

Ha kholwa leswaku Nongonoko wa Matematiki wu ta endla vuhoxaxandla bya nkoka eka ku tirhisiwa ka XIPHOKHAMA na leswaku wu ta tiyisa swivandlanene swa ku dyondza leswi nga kona swa vadyondzi hinkwavo eka Giredi ya V ku endlela leswaku va hluvukisa vuswikoti bya vona hi vutalo.

Xana Nongonoko wa Matematiki wa Giredi ya V i yini?

Tinotsi ta muhumelerisi

- ◆ PPT: Pheji ya 10 ya *Xiletelo xa Minongoti*, nkomiso wa vuxokoxoko lebyi nga laha hansi.

Nongonoko wa Matematiki wu kongomisa eka ku dyondzisa na ku dyondza nongoti kumbe nhlokomhaka ya matematiki yin'we hi nkarhi. Nkongomokulu wa vhiki rin'wana na rin'wana wu le ka Xiyenge xa Vundzeni xa XIPHOKHAMA. Vutivi byintshwa byi tivisiwa hi ku tirhisa:

- ◆ whole class activities
- ◆ small group activities: teacher-guided activities and independent (side) activities
- ◆ free choice activities.

The Maths Programme:

- ◆ supports, extends and reinforces the content of CAPS Grade R Mathematics. It does not replace CAPS and it assumes that teachers have some prior knowledge and understanding of CAPS Grade R Mathematics.
- ◆ promotes focus time so that learners can practise newly acquired skills and knowledge, and embeds practise opportunities in planned maths activities and experiences.
- ◆ gives teachers a detailed guide that supports teaching and learning.
- ◆ is guided by eight principles that contribute to successful teaching and learning.
- ◆ supports teachers in making the link between Grade R Mathematics concepts and later mathematical competence.
- ◆ emphasises the weekly observation of learners as a tool for gathering information about each child to inform planning and assessment.

Refer to page 10 of the *Concept Guide* to read more about the Grade R Mathematics Improvement Programme.

Read more about the Maths Programme's guiding principles on pages 14–73 of the *Concept Guide*.

- ◆ migingiriko ya tlilasi hinkwayo
- ◆ migingiriko ya ntlawa lowutsongo: migingiriko leyi leteriwaka hi mudyondzisi na migingiriko leyi tshunxekeke (ya le tlhelo)
- ◆ migingiriko yo hlawula va tshunxekile

Nongonoko wa Matematiki wu:

- ◆ seketela, ndlandlamukisa na ku tiyisa vundzeni bya Matematiki wa Giredi ya V wa XIPHOKHAMA. A wu sivi XIPHOKHAMA naswona wu swi teka wonge vadyondzisi va na vutivi bya nkarhi lowu nga hundza na ntwisiso wa XIPHOKHAMA xa Matematiki wa Giredi ya V.
- ◆ kondletela nkarhi wa nkongomo ku endlela leswaku vadyondzi va titoloveta swikili na vutivi lebyi kumekeke byintshwa na naswona, wu tiyisa swivandlanene swa vutitoloveti eka migingiriko na mitokoto ya matematiki leyi kunguhatiweke.
- ◆ nyika vadyondzisi xiletelo lexi koxometiweke lexi xi seketelaka madyondziselo na madyondzelo.
- ◆ leteriwa hi nhungu wa milawu leyi yi hoxaka xandla eka madyondziselo na madyondzelo lama humelalaka.
- ◆ seketela vadyondzisi eka ku endla vuxaka exikarhi ka minongoti ya Matematiki wa Giredi ya V kutani endzhaku ka swona vuswikoti bya matematiki.
- ◆ tshikelela nxiyaxiyo wa vhiki na vhiki wa vadyondzi tanihi xitirho xa ku hlengeleta vuxokoxoko hi mayelana na n'wana un'wana na un'wana ku letela nkunguhato na makambeleo.

Kongomisa eka pheji ya 10 ya *Xiletelo xa Minongoti* ku hlaya swo tala hi mayelana na Nongonoko wa Antswiso wa Matematiki wa Giredi ya V.

Hlaya swo tala hi mayelana na milawu yo letela ya Nongonoko wa Matematiki leyi nga eka tipheji ta 14–73 ta *Xiletelo xa Minongoti*.

Time allocation for Mathematics in Grade R

(10 minutes)

Facilitator's notes

- ◆ PPT: Time allocation in Grade R (*Concept Guide*, page 76/77, Table 1).
- ◆ Refer participants to the *Concept Guide*, pages 74–77.

CAPS suggests that the instructional time for Mathematics in Grade R should be 23 hours per week. However, CAPS does not provide a weighting or a breakdown of the time that should be spent on each Content Area for each term.

Maths in the Grade R daily programme

(20 minutes)

The daily programme in Grade R is not a timetable like the ones used in higher grades.

In Grade R the day is organised around the developmental needs of the learners. The day begins with time to talk and sing and ends with rest and stories. During the day, teachers plan activities for Home Language, Life Skills and Mathematics knowledge and understanding. During play and interaction with the teacher and other learners there are many opportunities for the integration of new skills and time to practise what has been learnt.

The Maths Programme suggests a way of organising the daily programme with focus time for Home Language, Life Skills and Mathematics.

Facilitator's notes

- ◆ PPT: Grade R daily programme (*Concept Guide*, page 80/81, Figure 31).
- ◆ Refer participants to the *Concept Guide*, pages 78–81.
- ◆ Discuss Mathematics focus time in relation to Home Language focus time, which has already been introduced.

Avelo wa nkarhi eka Matematiki eka Giredi ya V

(10 ra timinete)

Tinotsi ta muhumerisi

- ◆ PPT: Avelo wa nkarhi eka Giredi ya V (*Xiletelo xa Minongoti*, pheji ya 76/77, Tafula ra 1).
- ◆ Kongomisa vatekaxiave eka *Xiletelo xa Minongoti*, tipheji ta 74–77.

XIPHOKHAMA xi ringanyeta leswaku nkarhi wa ndzetelo wa Matematiki eka Giredi ya V wu fanele ku va 23 wa tiawara hi vhiki. Hambiswiritano, XIPHOKHAMA a xi nyiki ntikelo kumbe ntlhantlho wa Giredi ya V wa nkarhi lowu wu faneleke ku tirhisiwa eka Xiyenge xa Vundzeni xin'wana na xin'wana eka kotara yin'wana na yin'wana.

Matematiki eka nongonoko wa siku na siku eka Giredi ya V

(20 wa timinete)

Nongonoko wa siku na siku eka Giredi ya V a hi xikombamikarhi ku fana na leswi hi swi tirhisaka eka tigiredi ta le henhla.

Eka Giredi ya V siku ri lulamisiwa ku rhendzeleka na swilaveko swa nhluvukiso wa vadyondzi. Siku ri sungula hi nkarhi wa ku vulavula na ku yimbelela kutani ri fika emakumu hi ku wisa na switori. Esikwini, vadyondzisi va kunguhata migingiriko ya vutivi na ntwisiso wa Ririmi ra le Kaya, Swikili swa Vutomi na Matematiki. Hi nkarhi wa ku tlanga na mbulavurisano na mudyondzisi na vadyondzi lavan'wana ku na swivandlanene swo tala swa mpfanganiso wa swikili swintshwa na nkarhi wa ku titoloveta leswi swi dyondziweke.

Nongonoko wa Matematiki wu ringanyeta ndlela ya ku lulamisa nongonoko wa siku na siku ku ri na nkarhi nkongomo eka Ririmi ra le Kaya, Swikili swa Vutomi na Matematiki.

Tinotsi ta muhumerisi

- ◆ PPT: Nongonoko wa siku na siku wa Giredi ya V (*Xiletelo xa Minongoti*, pheji ya 80/81, Xifaniso xa 31).
- ◆ Kongomisa vatekaxiave eka *Xiletelo xa Minongoti*, tipheji ta 78–81.
- ◆ Kombela vatekaxiave ku hetisa **Nghingiriko wa 5** emitlaweni ya vona. Endla leswaku ntlawa wun'wana na wun'wana wu nyika xiviko kutani u kombela swikombiso swa hilaha matematiki wu dyondzisiwaka na ku dyondziwa hakona eka swiphemu swo hambanahambana swa nongonoko wa siku na siku, tanihi xikombiso: hi mikarhi ya migingiriko ya ntolovelo, migingiriko ya ntlawa hinkwawo, migingiriko leyi leteriwaka hi mudyondzisi, switichi swo tirhela swa mitlawa leyitsongo na migingiriko yo hlawula u tshunxekile.
- ◆ Kanelani nkarhi wa nkongomo wa Matematiki hi ku wu yelanisa na nkarhi wa Ririmi ra le Kaya, lowu se wu tivisiweke.

Daily Mathematics focus time

Facilitator's notes

- ◆ PPT: Daily Mathematics focus time (*Concept Guide*, page 82/83, Figure 33, or the diagram below). Summarise the information on pages 84–93 of the *Concept Guide*.

Guidelines for classroom organisation and management of the Mathematics focus time

1. Whole class maths sessions

- ◆ 15–25 minutes
- ◆ All learners sit in a circle together with the teacher.
- ◆ Activities:
 - Consolidate and provide practice of previously taught concepts.
 - Introduce a new concept.
 - Extend the concept that is the main focus of the week:
 - oral/rote counting (rhymes, songs, sequencing numbers)
 - counting objects
 - posing problems, memory games.
 - Give instructions for the small group activities at the workstations.

2. Small group maths sessions

- ◆ The class is divided into five groups of six to eight learners each.
- ◆ Each day one group works with the teacher (teacher-guided activity) and four groups work independently on planned maths activities at the workstations.
- ◆ Groups rotate daily.
- ◆ Activities:
 - Consolidate and provide opportunities to practise previously taught concepts.
 - Investigate the new concept that is the main focus of the week.
 - Provide opportunities to practise the concept that is the main focus of the week.
- ◆ The **teacher-guided activity** focuses on working with one group of learners to:
 - consolidate and practise previously taught concepts
 - deepen the understanding of a new concept
 - observe learners' progress.

3. Free choice activities

- ◆ Additional free choice activities with a maths focus are provided for learners who have completed their small group activity.

The Language training introduced you to a two-week teaching and learning cycle. The Maths Programme also follows a structured approach to organising the class for the Mathematics focus time. The Maths Programme's teaching and learning cycle is based on five small group activities that are rotated during one week. The lessons begin on a Monday and end on a Friday.

Nkarhi wa nkongomo wa Matematiki wa siku na siku

Tinotsi ta muhumelerisi

- ◆ PPT: Nkarhi wa nkongomo wa Matematiki wa siku na siku (*Xiletelo xa Minongoti*, pheji ya 82/83, Xifaniso xa 33, kumbe dayagiramu leyi nga laha hansi). Komisa vuxokoxoko lebyi nga eka tipheji ta 84–93 ta *Xiletelo xa Minongoti*.

Swiletelo swa malulamiso na malawulelo ya kamara ro dyondzela ya nkarhi wa nkongomo wa Matematiki

1. Tisexini ta matematiki wa tilasi hinkwayo

- ◆ 15–25 wa timinete
- ◆ Vadyondzi hinkwavo va tshama swin'we hi xirhendzevutana na mudyondzi.
- ◆ Migingiriko:
 - Tiyisisa na ku nyika vutitloveti bya minongoti leyi dyondzisiweke nkarhi lowu nga hundza
 - Tivisa nongoti lowuntshwa
 - Ndlandlamukisa nongoti lowu wu nga nkongomokulu wa vhiki:
 - ku hlayela ka swanomu/wo bela enhlokweni (tirhayimi, tinsimu, ku longoloxela tinomboro)
 - ku hlayela michumu
 - ku endla swiphiso, mitlangu ya vutsundziki
 - Nyika swileriso swa migingiriko ya mitlawa leyitsongo eka switirhi swo tirhela.

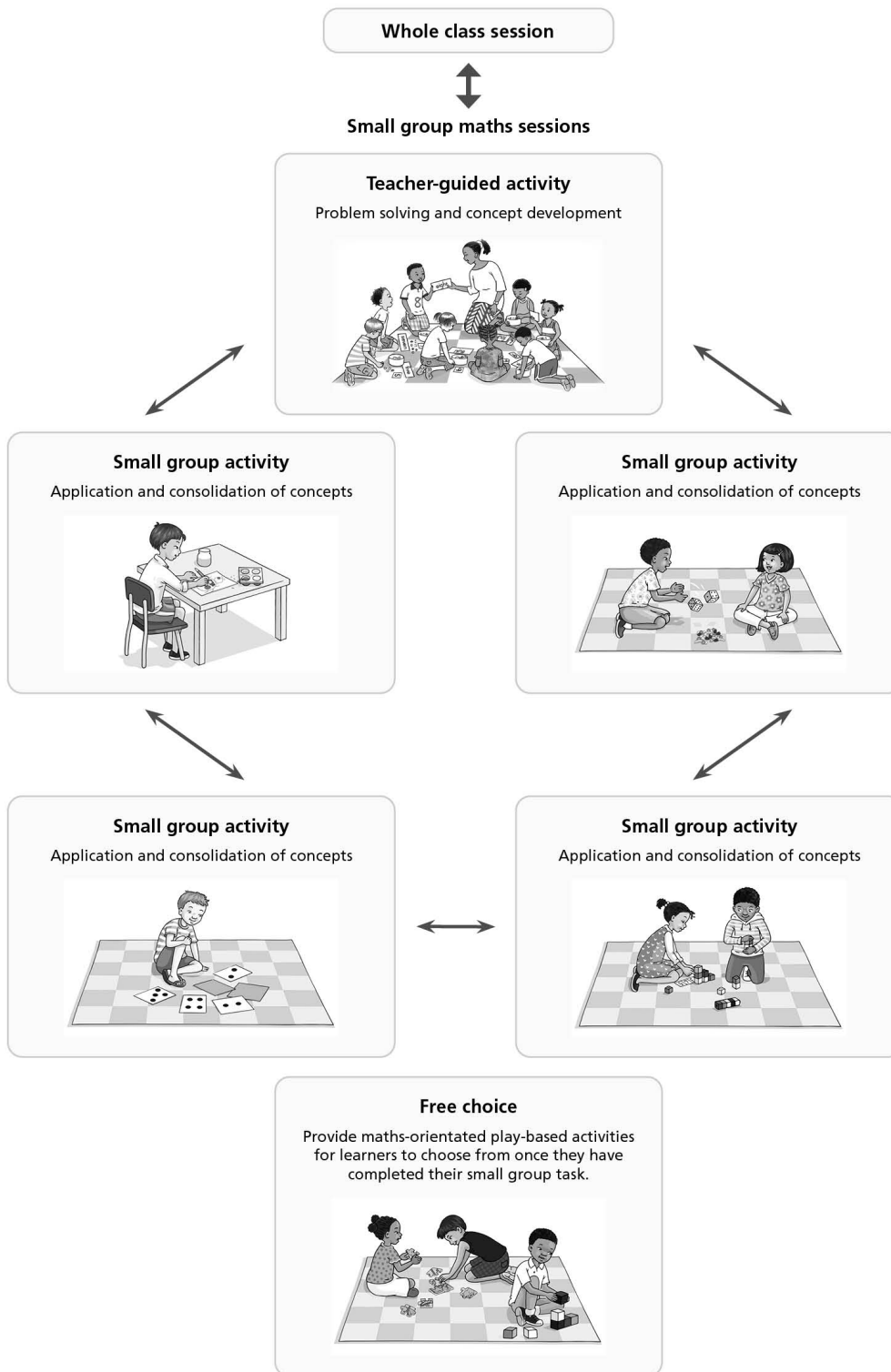
2. Tisexini ta matematiki wa mitlawa leyitsongo

- ◆ Tilasi yi aviwa hi ntlhanu wa mitlawa ya tsevu kufika eka nhungu wa vadyondzi wun'wana na wun'wana.
- ◆ Siku rin'wana na rin'wana, ntlawa wun'we wu tirha na mudyondzi (nghingiriko lowu leteriwaka hi mudyondzi) naswona mitlawa ya mune leyin'wana yi tirha yi ri yoxe eka migingiriko ya matematiki eka switichi swo tirhela.
- ◆ Mitlawa ya cincana siku na siku.
- ◆ Migingiriko:
 - Tiyisisa na ku nyika swivandlanene ku titoloveta minongoti leyi dyondzisiweke nkarhi lowu nga hundza.
 - Lavisisa nongoti lowuntshwa lowu wu nga nkongomokulu wa vhiki.
 - Nyika swivandlanene swa ku titoloveta nongoti lowu wu nga nkongomokulu wa vhiki.
- ◆ **Nghingiriko lowu leteriwaka hi mudyondzi** wu kongomisa eka ku tirha na ntlawa wun'we wa vadyondzi ku:
 - tiyisisa na ku titoloveta minongoti leyi dyondzisiweke nkarhi lowu nga hundza
 - entisa ntwisiso wa nongoti lowuntshwa
 - xiyaxiya ku ya emahlweni ka vadyondzi.

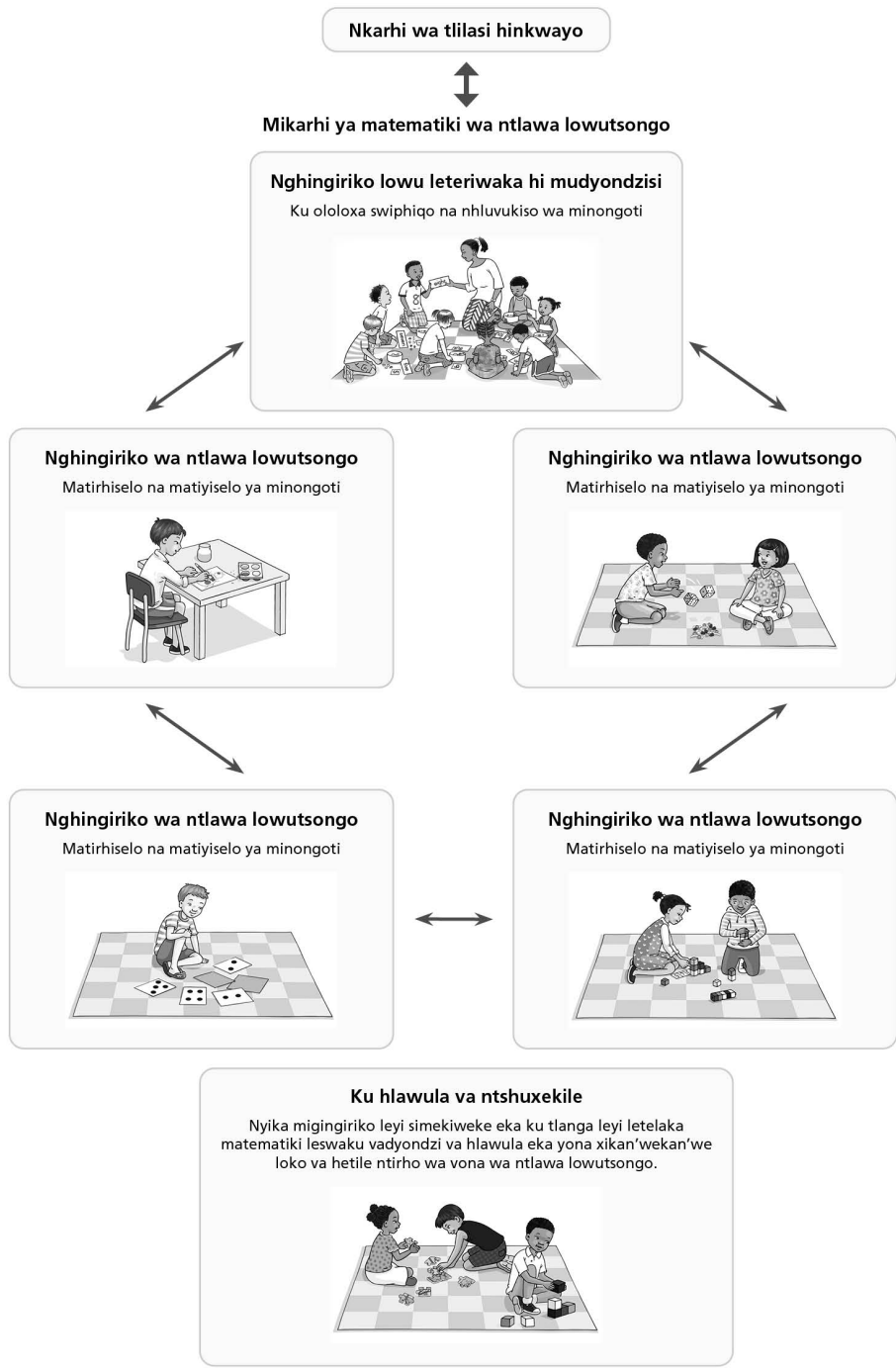
3. Migingiriko yo hlawula va tshunxekile

- ◆ Migingiriko yo engetela yo hlawula va tshunxekile leyi nga nkongomo wa matematiki yi lulamiseriwa vadyondzi lava va nga heta nghingiriko wa ntlawa wa vona lowutsongo

Vuleteri bya Ririmi byi ku tivise eka ndzhendzeleko wa ku dyondzisa na ku dyondza wa mavhiki mambirhi. Nongonoko wa Matematiki wu tlhela wu landzelela endlelo leri nga na xivumbeko ku lulamisela tilasi eka nkarhi wa nkongomo wa Matematiki. Ndzhendzeleko wa ku dyondzisa na ku dyondza wa Nongonoko wa Matematiki wu simekiwile eka ntlhanu wa migingiriko ya mitlawa leyitsongo leyi cincanaka eka vhiki rin'we. Tidyondzotsongo ti sungula hi Musumbhunuku kutani ti fika emakumu hi Ravuntlhanu.



Refer to pages 82–93 of the *Concept Guide* to read more about organising your classroom for the daily Mathematics focus session.



Kongomisa eka tipheji ta 82–93 ta *Xiletelo xa Minongoti* ku hlaya hi mayelana na ku lulamisa kamara ra wena ro dyondzela ra sexini ya nkongomo ya Matematiki ya siku na siku.

Session 2: Numbers, Operations and Relationships

2 hours

Term 1–4 content overview (CAPS)

(45 minutes)

Facilitator's notes

- ◆ PPT: *Concept Guide*, page 110/111, Figure 41 and summary on pages 110–113
- ◆ Refer participants to the *Concept Guide*, pages 114–137. Explain that this content overview provides the framework for all maths planning and will be used and referenced throughout the training.
- ◆ PPT: Discuss the table. Explain that the text in blue is from CAPS and the black text is content that has been added to build and extend CAPS in the Maths Programme.

The Maths Programme is aligned to and extends the content of the five Mathematics Content Areas of CAPS. The table on pages 114–137 of the *Concept Guide* provides a content overview of the maths to be taught in Grade R. It also shows what content is to be taught each term.

- ◆ The text in blue is the content from the CAPS for Grade R Mathematics.
- ◆ The text in black has been added to extend and build on CAPS.
- ◆ The topics are sequenced to show a developmental progression from one topic to the next.

Refer to pages 110–113 of the *Concept Guide* and read 1.1, 1.2 and 1.3 on pages 114–117. After reading numbers 1.1, 1.2 and 1.3, complete Activities 7 and 8.

Facilitator's notes

- ◆ Have participants complete **Activity 7** in their groups. Ask a person from each group to share their ideas.



Activity 2

Look through the Term 1–4 content overview for the Content Area: Numbers, Operations and Relationships, in the *Concept Guide* and in the CAPS document. In your group, discuss:

1. What does the Maths Programme add to the content of CAPS?

Sexini ya 2: Tinomboro, Tioparexini na Vuxaka

2 wa tiawara

Nkatsakanyo wa vundzeni wa Kotara ya 1-4 (XIPHOKHAMA)

(45 wa timinete)

Tinotsi ta muhumelerisi

- ◆ PPT: *Xiletelo xa Minongoti*, pheji ya 110/111, Xifaniso xa 41 na nkomiso eka tipheji ta 110-113
- ◆ Kongomisa vatekaxiave eka *Xiletelo xa Minongoti*, tipheji ta 114-137. Hlamusela hi vutalo leswaku nkatsakanyo lowa vundzeni wu nyika rimba ra nkunguhato wa matematiki hinkwawo naswona wu ta tirhisiwa na ku kongomisiwa eka wona eka vuleteri hinkwabyo.
- ◆ PPT: Kanelani tafula leri. Hlamusela hi vutalo leswaku xitsariwa lexi nga hi muhlovo wa wasi xi huma eka XIPHOKHAMA, kasi xitsariwa xa muhlovo wa ntima i vundzeni lebyi byi engeteriweke ku aka na ku ndlandlamukisa XIPHOKHAMA eka Nongonoko wa Matematiki.

Nongonoko wa Matematiki wu fambelanisiwile na ku ndlandlamukisa vundzeni bya ntlhanu wa Swiyenge swa Vundzeni bya Matematiki swa XIPHOKHAMA. Tafula leri nga eka tipheji ta 114-137 ta *Xiletelo xa Minongoti* ri nyika nkatsakanyo wa vundzeni bya matematiki lebyi faneleke ku dyondzisiwa eka Giredi ya V. Ri tlhela ri komba leswaku i vundzeni byihi lebyi byi faneleke ku dyondzisiwa kotara yin'wana na yin'wana.

- ◆ Xitsariwa lexi nga hi muhlovo wa wasi i vundzeni kusuka eka XIPHOKHAMA xa Matematiki wa Giredi ya V.
- ◆ Xitsariwa lexi nga hi muhlovo wa ntima xi engeteriwile ku ndlandlamukisa na ku aka ehenhla ka XIPHOKHAMA.
- ◆ Tinhlokomhaka ti longoloxiwile ku komba ku ya emahlweni ka nhluvukiso kusuka eka nhlokomhaka yin'we kuya eka leyi landzelaka.

Kongomisa eka tipheji ta 110-113 ta *Xiletelo xa Minongoti* na ku hlaya 1.1, 1.2 na 1.3 eka tipheji ta 114-117. Endzhaku ka ku hlaya tinomboro ta 1.1, 1.2 na 1.3, hetisani Migingiriko ya 7 na 8.

Tinotsi ta muhumelerisi

- ◆ Kombela vatekaxiave ku hetisa **Nghingiriko wa 7** emitlaweni ya vona. Kombela munhu kusuka eka ntlawa wun'wana na wun'wana ku avelana mianakanyo ya vona.



Nghingiriko wa 2

Languta eka nkatsakanyo wa vundzeni wa Kotara ya 1-4 ku kuma Xiyenge xa Vundzeni: Tinomboro, Tioparexini na Vuxaka, eka *Xiletelo xa Minongoti* na le ka tsalwa ra XIPHOKHAMA. Entlaweni wa n'wina, kanelani.

1. Xana hi swihi leswi Nongonoko wa Matematiki wu swi engetelaka eka vundzeni bya XIPHOKHAMA?

Refer to the black text on pages 114–117 of the *Concept Guide*. Main content added: dot cards, multiple representations, structure beads, jumping track, number washing line, matching with number symbol/word, breaking down and building up collections, ordering of number symbols, ordinal numbers in everyday activities, orally solving problems, equal sharing.

2. What counting concepts are covered in Numbers, Operations and Relationships in Term 1?

Refer to the black text on pages 114–115 of the *Concept Guide*: one-to-one correspondence, estimation, matching, multiple representations, counting forwards 1–10, counting backwards 5–1.

Facilitator's notes

- ◆ Explain that during the workshops the focus is on the implementation of the Maths Programme and that participants need to understand the maths concepts themselves so that they are able to support their learners. This workshop provides an understanding of important concepts in Numbers, Operations and Relationships.

Important concepts in Numbers, Operations and Relationships

(1¼ hours)

Counting

Oral counting (rhythmic, rote or acoustic counting)

Facilitator's notes

- ◆ Ask participants to divide themselves into small groups of five and then to find an open space in the training room. Refer participants to **Activity 8** and let them say the rhyme, *One, two, three, four, five* (*Activity Guide: Term 1*, page 196) with actions.
- ◆ In their small groups, participants reflect on the activity and the counting skills they used and complete **Activity 8** and **9**.
- ◆ Ask the groups to report back on their discussions. List each new counting skill on the flipchart.
- ◆ Make sure that participants understand that oral counting involves memorising the names of numbers and does not mean that children can count.
- ◆ Read the information on oral counting below.
- ◆ Discuss the following terms: oral, rhythmic, rote and acoustic counting.
- ◆ PPT: such as: book, chair, dog, house.
- ◆ Explain that for learners the counting sequence of number names does not initially have any association with the concept of number, e.g. like: book, chair, dog, house, ... Learners gradually understand that each word stands alone in the sequence and that each word represents a specific number.

Kongomisa eka xitsariwa lexa muhlovo wa ntima eka tipheji ta 114–117 ta *Xiletelo xa Minongoti*. Vundzenikulu lebyi engeteriweke: makhadi ya mathonsi, vuyimerinyingi, vuhlalu bya swivumbeko, ndlela yo tlulela, mugiva wa tinomboro, ku pananisa hi mfungho wa nomboro/vito ra nomboro, ku tlhantlha na ku aka mihlengelo, ku landzelelanisiwa ka mifungho ya tinomboro, tinomboro ta odinali eka migingiriko ya masiku hinkwawo, ku ololoxa swiphiqo hi nomu, ku avelana ko ringana.

2. Xana hi yihi minongoti ya nhlayelo leyi angarheliweke eka Tinomboro, Tioparexini na Vuxaka eka Kotara ya 1?

Kongomisa eka xitsariwa lexa muhlovo wa ntima eka pheji ya 114–115 ta *Xiletelo xa Minongoti*: ku yelana ka xin'we-eka-xin'we, nkumbetelo, ku pananisa, vuyimerinyingi, ku hlayela kuya emahlweni 1–10, ku hlayela kuya endzhaku 5–1.

Tinotsi ta muhumelerisi

- ◆ Hlamusela hi vutalo leswaku hi nkarhi wa miletelovutivi nkongomo wu le ka ku tirhisiwa ka Nongonoko wa Matematiki na leswaku vatekaxiave va fanele ku twisisa minongoti ya matematiki vona vini ku endlela leswaku va kota ku seketela vadyondzi va vona. Ndzetelavutivi lowu wu nyika ntwisiso wa minongoti ya nkoka eka Tinomboro, Tioparexini na Vuxaka.

Minongoti ya nkoka eka Tinomboro, Tioparexini na Vuxaka

(1¼ wa tiawara)

Ku hlayela

Ku hlayela ka swanomu (ku hlayela ka nsumo, ku hlayela hi bela enhlokweni/ku hlayela hi ncino)

Tinoti ta muhumelerisi

- ◆ Kombela vatekaxiave ku tiava hi mitlawa leyitsongo ya ntlhanu kutani endzhaku ka swona va kuma ndhawu yo pfuleka ekamareni ra vuleteri. Kongomisa vatekaxiave eka **Nghingiriko wa 8** kutani u va endla va vula rhayimi, N'we, mbirhi nharhu, mune, ntlhanu (*Xiletelo xa Migingiriko: Kotara ya 1*, pheji ya 197) ku ri na swiendlo.
- ◆ Emitlaweni ya vona leyitsongo, vatekaxiave va ehleketisisa hi mayelana na nghingiriko lowu na swikili swa nhlayelo leswi va swi tirhiseke kutani va hetisa **Nghingiriko wa 8** na **9**.
- ◆ Kombela mitlawa ku nyika xiviko hi mayelana na mikanelo ya vona. Xaxameta xikili xa nhlayelo xintshwa xin'wana na xin'wana eka chati yo pfula.
- ◆ Tiyisisa leswaku vatekaxiave va swi twisisa leswaku nhlayelo wa nomu wu khumba ku bela enhlokweni mavito ya tinomboro naswona a swi vuli leswaku vana va kota ku hlayela.
- ◆ Hlaya vuxokoxoko hi mayelana na ku hlayela ka swanomu lowu nga laha hansa.
- ◆ Kanelani matheme lama landzelaka: ku hlayela ka swanomu, nsumo, bela enhlokweni na wa ncino.
- ◆ PPT: wo tanihi: buku, xitulu, mbyana, yindlu.
- ◆ Hlamusela hi vutalo leswaku eka vadyondzi malongolokelo ya nhlayelo ya mavito ya tinomboro emasungulweni a ya na vuxaka byihi kumbe byihi na nongoti wa nomboro, xik. ku fana na: buku, xitulu, mbyana, yindlu, ... Vadyondzi hi katsongotsongo va twisisa leswaku rito rin'wana na rin'wana ri yima ri ri roxe eka malongolokelo na leswaku rito rin'wana na rin'wana ri yimela nomboro yo karhi.

Oral counting involves a learner memorising the names and counting order of numbers, often in a rhyme or song.

In Grade R learners learn the correct order of number names and repeat the sequence daily. The purpose of counting out loud is to help learners understand that when we count aloud there is a set order for the numbers: beginning at one, then two, three, four, etc. Initially learners do not fully understand the meaning of the number names and might skip numbers in a counting sequence. Reciting a rhyme or series of numbers orally means repeating the number names from memory. Even when learners count in steps of two, five and ten they are using their knowledge of this number order. Memorising number names and repeating them in the correct counting order does not necessarily mean that learners can count. This is different from counting to find out 'how much'.

Arrange yourselves into small groups of five and find an open space in the training room for the next activity.



Activity 3

1. In your small groups, say the rhyme, *One, two, three, four, five*, with actions.

One, two, three, four, five

One, two, three, four, five
Once I caught a fish alive.
'Why did you let it go?'
Because it bit my finger so.
One, two, three, four, five
Then I caught a frog alive.
'What did you do with that?'
I said hello and put it back.

2. Do you think using a rhyme like this one is good practice for teaching counting in Grade R? Give reasons for your answer.

Refer to pages 76 and 196 of *Activity Guide: Term 1* for this rhyme.

Ku hlayela ka swanomu ku khumba mudyondzi wo bela enhlokweni mavito na nandzelelano wa tinomboro, hakanyingi leti nga eka rhayimi kumbe risimu.

Eka Giredi ya V, vadyondzi va dyondza nandzelelano lowu nga lulama wa mavito ya tinomboro na ku vuyelela malongolokelo lama siku na siku. Xikongomelo xa ku hlayela ehenhla i ku pfuna vadyondzi ku twisisa leswaku loko hi hlayela ehenhla ku na nandzelelano lowu vekiweke wa tinomboro, ku sungula eka n'we, endzhaku ka yona ku landzela mbirhi, nharhu, mune sw.sw. Emasungulweni, vadyondzi a va twisisi hi vutalo nhlamuselo ya mavito ya tinomboro naswona va nga ha tlula tinomboro eka malongolokelo ya nhlayelo. Ku tlhokovetsela rhayimi kumbe ntlhandlamano wa tinomboro hi nomu swi vula ku vuyelela tinomboro kusuka eka vutsundzuki. Hambiloko vadyondzi va hlayela hi magoza ya mbirhi, ntlhanu na khume va le ku tirhiseni ka vutivi bya nandzelelano lowu wa tinomboro. Ku bela enhlokweni mavito ya tinomboro na ku ma vuyelela hi nandzelelano lowu nga lulama a swi vuli ngopfungopfu leswaku vadyondzi lava va kota ku hlayela. Leswi swi hambanile na ku hlayela ku kumisisa leswaku 'i swingani'.

Tivekeni hi n'wexe hi mitlawa leyitsongo ya ntlhanu kutani mi kuma ndhawu yo pfuleka ekamareni ro dyondzela eka nghingiriko lowu landzelaka.



Nghingiriko wa 3

1. Emitlaweni ya nwina leyitsongo, vulani rhayimi leyi, *N'we, mbirhi, nharhu, mune, ntlhanu*, ku ri na swiendlo.

N'we, mbirhi, nharhu, mune, ntlhanu

Tiyisisa: n'we, mbirhi, nharhu, mune, ntlhanu

Ndzi tshama ndzi khoma nhlampfi ya nkanu.

'Hikwalahokayini u yi tshike yi famba?'

Hikuva yi ndzi lume ritiho loko ndzi yi mbamba.

N'we, mbirhi, nharhu, mune, ntlhanu

Endzhaku ka swona ndzi khoma chela ra nkanu.

'Xana u endle yini hi rona?'

Ndzi lo avuxeni ndzi ri tshika ri pona.

2. Xana mi ehleketa leswaku ku tirhisa rhayimi yo fana na leyi i endlelo ra kahle eka ku dyondzisa nhlayelo eka Giredi ya V? Nyikani swivangelo swa nhlamulo ya n'wina.

Kongomisa eka tipheji ta 77 na 197 ta *Xiletelo xa Migingiriko: Kotara ya 1* ku kuma rhayimi leyi.



Activity 4

In the same small groups, answer these questions:

1. What would learners learn by saying this rhyme?

2. What do learners learn when they repeat a sequence of numbers in the correct counting order?

Count in ones in the correct order.

Sequence of the counting numbers.

Correct number words.

Distinguish the number words.

Helps with memorising the sequence of counting order.

Counting objects (rational counting)

Facilitator's notes

- ◆ Demonstrate how to count objects using one-to-one correspondence.
- ◆ Ask participants to take two handfuls of counters from the *Resource Kit* equipment in the tub on their table and place them in front of them. Ask them to say which pile has more/fewer counters. Ask participants how they can determine this without counting. Prompt them to match the elements in each group one-to-one in order to say which group has more/less.
- ◆ Ask participants to count the items in each group to find out which has more/fewer.
- ◆ Ask participants what vocabulary was used, e.g. count, one, two, three ..., how many, more, fewer, group.
- ◆ Read the information about counting objects (rational counting) below.
- ◆ Make sure that participants understand the difference between oral counting and counting objects:
 - **Oral counting** involves memorising and sequencing number words.
 - **Counting objects** involves matching a number word to each object being counted and understanding that the last number said represents the total number counted (how many).



Nghingiriko wa 4

Emitlaweni leyitsongo yaliya, hlamulani swivutiso leswi:

1. Xana hi swihi leswi vadyondzi va nga ta swi dyondza hi ku vula rhayimi leyi?

2. Xana hi swihi leswi vadyondzi va swi dyondzaka loko va vuyelela malnglokelo ya tinomboro hi nandzelelano wa nhlayelo lowu nga lulama?

Hlayelani hi van'we hi nandzelelano lowu nga lulama.

Malongolokelo ya tinomboro to hlayela.

Marito ya tinomboro lama nga lulama.

Hambanisani marito ya tinomboro.

Pfunani hi ku bela enhlokweni malongolokelo ya nandzelelano wo hlayela.

Ku hlayela michumu (nhlayelo wa mitsengo)

Tinotsi ta muhumelerisi

- ◆ Kombisa hilaha ku hlayeriwaka hakona michumu hi ku tirhisa ku yelana ka xin'we-eka-xin'we.
- ◆ Kombela vatekaxiave ku nusa swandla swimbirhi swa swihlayeri kusuka eka switirhisiwa swa *Khiti ya Swipfuno* leswi nga esibavhanini lexi nga etafuleni ra vona kutani va swi veka emahlweni ka vona. Va kombeli ku vula leswaku i nhulu yihi yi nga na swihlayeri swo tala/switsongo. Vutisa vatekaxiave hilaha va nga kumisisaka leswi hakona handle ko hlayela. Va tsundzuxe ku pananisa swiphemu leswi nga eka ntlawa wun'wana na wun'wana xin'we-eka-xin'we hi xikongomelo xa ku vula leswaku i ntlawa wihi wu nga na swo tala/switsongo.
- ◆ Kombela vatekaxiave ku hlayela michumu leyi nga eka ntlawa wun'wana na wun'wana ku kumisisa leswaku hi wihi lowu wu nga na yo tala/yitsongo.
- ◆ Vutisa vatekaxiave leswaku i ntivomarito wihi lowu wu tirhisiweke, xik. hlayela, n'we, mbirhi, nharhu ..., i swingani, tala, tsongo, ntlawa.
- ◆ Hlaya vuxokoxoko hi mayelana na ku hlayela michumu (nhlayelo wa mitsengo) leyi nga laha hanshi.
- ◆ Tiyisisa leswaku vatekaxiave va ku twisisa ku hambana exikarhi ka ku hlayela ka swanomumu na ku hlayela michumu:
 - **Ku hlayela ka swanomumu** wu khumba ku bela enhlokweni na ku longoloxela marito ya tinomboro.
 - **Ku hlayela michumu** swi khumba ku pananisa rito ra nomboro eka nchumu wun'wana na wun'wana lowu nga eku hlayeriwani na ku twisisa leswaku nomboro yo hetelela leyi vuriwaka yi yimela nhlayo hinkwayo leyi hlayeriweke (i swingani).

Counting objects involves one-to-one correspondence. This means that each object or event to be counted is matched with a number word. To count 'how many', learners need to realise that each object in a collection gets a number word ('one, two, three, four ...') and that you count each object only once.

Once learners know the order of the counting numbers, they begin to understand that each number in the counting sequence is one bigger than the number before and one smaller than the next number. They:

- ◆ can mentally compare numbers and see that two is one more than one and that three is one more than two.
- ◆ realise that numbers grow by one each time.
- ◆ realise that any number in the counting sequence is exactly one more than the previous number.

Facilitator's notes

- ◆ Explain to participants that learners do not learn number concepts and skills in isolation. They need daily experiences with number in different contexts that involve oral counting, counting objects and representing a number in different ways.
- ◆ Emphasise that learners are not required to write number symbols in Grade R. Learning to write number symbols should be regarded the same way as Emergent Writing. Refer to Numbers, Operations and Relationships in the CAPS document and to pages 114–117 of the *Concept Guide*.



Video 3

Activity Guide: Term 1, Week 2, Teacher-guided activity #2, 3 (page 46/47)

Watch the video of learners counting a collection of objects. This is a teacher-guided activity. Notice how the teacher observes each learner and asks questions to prompt them to share their ideas.

Ku hlayela michumu swi khumba ku yelana ka xin'we-eka-xin'we. Leswi swi vula leswaku nchumu kumbe xiendleko xin'wana na xin'wana lexi faneleke ku hlayeriwa xi pananisiwa na vito ra nomboro. Ku hlayela leswaku 'i swingani', vadyondzi va fanele ku vona leswaku nchumu wun'wana na wun'wana lowu nga eka nhlengelo wu kuma vito ra nomboro ('n'we, mbirhi, nharhu, mune ...') na leswaku u hlayela nchumu wun'wana na wun'wana kan'we ntsena.

Xikan'wekan'we loko vadyondzi va tiva nandzelelano wa tinomboro to hlayela, va sungula ku twisisa leswaku nomboro yin'wana na yin'wana leyi nga eka malongolokelo yo hlayela i yikulukumba hi n'we kutlula nomboro leyi nga emahlweni ka yona naswona i yitsongo hi n'we kutlula nomboro leyi landzelaka. Va:

- ◆ va nga fananisa emihleketweni tinomboro naswona va nga kota ku vona leswaku mbirhi i yikulu hi n'we kutlula n'we na leswaku nharhu i n'we kutlula mbirhi.
- ◆ nga vona leswaku tinomboro ti kula hi n'we nkarhi wun'wana na wun'wana.
- ◆ nga vona leswaku nomboro yihi kumbe yihi eka malongolokelo ya nhlayelo i n'we kwatsa, kutlula nomboro leyi nga hundza.

Tinotsi ta muhumerisi

- ◆ Hlamusela vatekaxiave hi vutalo leswaku vadyondzi a va dyondzi minongoti ya tinomboro na swikili swa tinomboro swi ri swoxe. Va lava mitokoto ya siku na siku hi nomboro eka mivangu yo hambanahambana leyi yi khumbaka ku hlayela ka swanomu, ku hlayela michumu na ku endla vuyimeri bya nomboro hi tindlela to hambanahambana.
- ◆ Tshikelela leswaku vadyondzi a va laveki ku tsala mifungo ya tinomboro eka Giredi ya V. Ku dyondza ku tsala mifungo ya tinomboro swi fanele ku tekiwa hi ndlela yo fana tanihi hi Matsalelo lama ya Tumbulukaka. Kongomisa eka Tinomboro, Tioparexini na Vuxaka eka tsalwa ra XIPHOKHAMA na tipheji ta 114–117 ta *Xiletelo xa Minongoti*.



Vhidiyo ya 3

Xiletelo xa Migingiriko: Kotara ya 1, Vhiki ra 2, Nghingiriko lowu leteriwa hi mudyondzisi #2, 3 (pheji ya 46/47)

Hlalelani vhidiyo ya vadyondzi va ri karhi va hlayela nhlengelo wa michumu. Lowu i nghingiriko lowu leteriwa hi mudyondzisi. Vona hilaha mudyondzisi a xiyaxiyaka hakona mudyondzi un'wana na un'wana kutani u vutisa swivutiso ku va tsundzuxa ku avelana mianakanyo ya vona.

Representing numbers

Facilitator's notes

- ◆ Say to participants: *Show me five.*
- ◆ Participants will most likely hold up five fingers. Explain that the concept or idea of a number is in our heads and that we cannot see numbers. We can't see them, but we can represent them in different ways, for example, using fingers, counters, claps, birthday candles. We represent numbers to show 'how many'.
- ◆ Ask participants to think about the different ways to represent a number and ask them to complete **Activity 10** individually. Then ask participants to share their ideas.
- ◆ Use the information below to summarise how learners begin to represent numbers.



Activity 5

How many different ways can you find to represent the number 5?

Learners begin to represent numbers using their fingers, and then gradually start to use other methods, such as objects, drawings, pictures or symbols. Learners progress:

- ◆ from using actual objects to represent (stand in for) numbers, e.g. lemons, sweets, pencils, leaves
- ◆ to using pictures or drawings to represent the objects, e.g. a drawing of a lemon, person, car
- ◆ to using counters to represent the objects or pictures, e.g. plastic discs to show the number of lemons
- ◆ to using marks to represent the physical objects and pictures, e.g. circles, dots, tally marks, clapping sounds, drumbeats, stamping feet
- ◆ to using number symbols and number words, e.g. '2' or 'two'.

Facilitator's notes

- ◆ PPT: Explain that the Maths Programme uses an approach of teaching one number at a time and follows the same routine for each number taught. Summarise the text below to provide a brief outline of the routine.
- ◆ Tell the *Number 1 story* on page 196 of *Activity Guide: Term 1*.

Ku endla vuyimeri bya tinomboro

Tinotsi ta muhumelerisi

- ◆ Vula eka vatekaxiave: *Ndzi kombeni ntlhanu.*
- ◆ Vatekaxiave va ta tala swinene ku yimisela ehenhla ntlhanu wa tintiho. Hlamusela hi vutalo leswaku nongoti kumbe muanakanyo wa nomboro wu le tinhlokweni ta hina na leswaku a hi nge swi koti ku vona tinomboro. A hi nge swi koti ku ti vona, kambe hi nga kota ku endla vuyimeri bya tona hi tindlela to hambanahambana, tanihi xikombiso, hi ku tirhisa tintiho, swihlayeri, miphokotelo, makhandlhela ya masiku ya ku velekiwa. Hi endla vuyimeri bya tinomboro ku komba leswaku 'i swingani'.
- ◆ Kombela vatekaxiave ku ehleketa hi mayelana na tindlela to hambanahambana ku endla vuyimeri bya nomboro kutani u va kombela ku hetisa **Nghingiriko wa 10** hi un'weun'we. Endzhaku ka swona kombela vatekaxiave ku avelana mianakanyo ya vona.
- ◆ Tirhisa vuxokoxoko lebyi nga laha hansi ku kombisa hilaha vadyondzi va sungulaka ku endla vuyimeri bya tinomboro hakona.



Nghingiriko wa 5

Xana i tindlela to hambanahambana tingani leti u nga ti kumaka ku endla vuyimeri bya nomboro ya 5?

Vadyondzi va sungula ku endla vuyimeri bya tinomboro hi ku tirhisa tintiho ta vona kutani endzhaku ka swona hi katsongotsongo va sungula ku tirhisa maendlelo man'wana, yo tanihi michumu, swidirowiwa, swifaniso kumbe mifungho. Vadyondzi va ya emahlweni:

- ◆ kusuka eka ku tirhisa michumu ya xiviri ku endla vuyimeri (ku yimela) bya tinomboro, xik. swikwavava, swiwitsi, tipensele, matluka
- ◆ kuya eka ku tirhisa swifaniso kumbe swidirowiwa ku endla vuyimeri bya michumu, xik. xidirowiwa xa xikwavava, munhu, movha
- ◆ kuya eka ku tirhisa swo hlayela ku endla vuyimeri bya michumu kumbe swifaniso, xik. tidisiki ta pulasitiki ku komba nhlayo ya swikwavava
- ◆ kuya eka ku tirhisa mithalo ku endla vuyimeri bya michumu yo khomeka na swifaniso, xik. swirhendzevutana, mathonsi, mithalo, mimpfumawulo ya miphokotelo, mimpfumawulo ya ndzhumba, ku gima mikondzo
- ◆ kuya eka ku tirhisa mifungho ya tinomboro na mavito ya tinomboro yo tsariwa, xik. '2' kumbe 'mbirhi'.

Tinotsi ta muhumelerisi

- ◆ PPT: Hlamusela hi vutalo leswaku Nongonoko wa Matematiki wu tirhisa endlelo ra ku dyondzisa nomboro yin'we hi nkarhi naswona ri landzelela nghingiriko wa siku na siku wo fana wa nomboro yin'wana na yin'wana leyi dyondzisiwaka. Kombisa xitsariwa lexi nga laha hansi ku nyika nkatsakanyo wo koma wa nghingiriko wa siku na siku.
- ◆ Rungula *Xitori xa nomboro ya 1* eka pheji ya 196 ya *Xiletelo xa Migingiriko: Kotara ya 1.*

- ◆ Retell the story, this time involving the participants in dramatising the story as you tell it, e.g. by moving like elephants, painting the number 1 on the roof of the house, smelling one flower, flying around like one bird.
- ◆ Demonstrate different number representations by displaying the house template on the wall of the training room and re-telling the *Number 1 story*. Exaggerate 'one' each time it occurs in the story, e.g. one bird, one tree, one bench, one flower, one cloud, one door, one doorbell. Place the number 1 frieze cards in the house template as you progress through the story:
 - the animal (picture)
 - the number symbol (1)
 - the dot (doorbell)
 - the number word (one).

The Maths Programme uses an approach that introduces numbers 0–10 one at a time and follows the same teaching routine for each number.

- ◆ A story is told about the number. This raises learners' interest and provides a familiar, fun context that connects with learners' lives and interests.
- ◆ Each number has a particular animal character. The story featuring the animal is used to build a number frieze to represent the number.
- ◆ Dramatising the story provides opportunities for learners to respond kinaesthetically (learning through acting and moving their bodies).
- ◆ Objects are collected to represent the number in various ways. The objects are put in the maths area.
- ◆ Learners match objects to pictures, dot cards, number symbols and number words.
- ◆ The *Poster Book* provides real-life contexts to stimulate discussion and encourage problem solving.

The number 'one' is introduced in the second week of Term 1 to familiarise learners with this routine. The same routine is used as each new number is introduced, adding one more to the number the learners learnt previously.

Before completing the next activity, interact with the facilitator as she tells the story for number 1 and builds up the number frieze using the house template and animal frieze cards. After listening to the story, complete Activity 11.

Facilitator's notes

- ◆ After the demonstration, ask participants to complete **Activity 11**.
- ◆ Allow participants to discuss the question in small groups and then to share their ideas in the big group.
- ◆ Reflect on the vocabulary used during the activity, e.g. one, number, number symbol, number name, number word, how many, group, collection, count, the same.

- ◆ Rungula nakambe xitori lexi, sweswi u ri karhi u katsa vatekaxiave eka ku endla ntlangu wa xitori loko u ri karhi u xi rungula, xik. hi ku famba ku fana na tindlopfu, hi ku penda nomboro ya 1 elwangwini ra yindlu, hi ku nuhetela xiluva xin'we, hi ku hahaha ku fana na xinyenyana xin'we.
- ◆ Kombisa vuyimeri bya tinomboro to hambanahambana hi ku kombisa thempuleti ya yindlu ekhumbini ra kamara ra vuleteri na ku rungula nakambe *Xitori xa nomboro ya 1*. Kurisa 'n'we' nkarhi wun'wana na wun'wana loko yi humelela exitorini, xik xinyenyana xin'we, nsinya wun'we, bence rin'we, xiluva xin'we, papa rin'we, rivanti rin'we, bele ya le rivantini yin'we. Vekela makhadi ya swipendiwankhaviswa swa nomboro ya 1 eka thempuleti ya yindlu loko u ri karhi u ya emahlweni na xitori lexi:
 - xiharhi (xifaniso)
 - mfungho wa nomboro (1)
 - nthonsi (bele ya le rivantini)
 - vito ra nomboro (n'we).

Nongonoko wa Matematiki wu tirhisa endlelo leri ri tivisaka tinomboro ta 0–10 yin'we hi nkarhi naswona ri landzelela nghingiriko wa siku na siku wa madyondziselo yo fana eka nomboro yin'wana na yin'wana.

- ◆ Xitori xa runguriwa hi mayelana na nomboro leyi. Leswi swi tlakusa ntsakelo wa vadyondzi naswona swi nyika mbangu wo tiphina, wo toloveleka lowu wu khomanaka na vutomi na mitsakelo ya vadyondzi.
- ◆ Nomboro yin'wana na yin'wana yi na xihlawulekisi xa xiharhi xo karhi. Xitori lexi xi kombisaka xiharhi xi tirhisiwa ku aka xipendiwankhaviswa xa nomboro ku endla vuyimeri bya nomboro leyi.
- ◆ Ku endla ntlangu wa xitori swi nyika swivandlanene eka vadyondzi ku angula hi ndlela yo tirhisa swirho swa miri (ku dyondza hi ku endla na ku fambafambisa miri ya vona).
- ◆ Michumu ya hlengeletwa u endla vuyimeri bya nomboro hi tindlela to hambanahambana. Michumu leyi yi vekiwa eka ndhawu ya matematiki.
- ◆ Vadyondzi va pananisa michumu eka swifaniso, makhadi ya mathonsi, mifungho ya tinomboro na mavito ya nomboro
- ◆ *Buku ya Tiphositara* yi nyika mivangu ya vutomi bya xiviri ku nyanyula nkanelo na ku khutaza ku ololoxa swiphiso.

Nomboro ya 'n'we' ya tivisiwa eka vhiki ra vumbirhi ra Kotara ya 1 ku toloveta vadyondzi na nghingiriko lowa siku na siku. Nghingiriko lowa siku na siku wu tirhisiwa tanihiloko nomboro yintshwa yi tivisiwa, ku engeteriwa n'we ehenhla ka nomboro leyi vadyondzi va yi dyondzeke eka nkarhi lowu nga hundza.

Ku nga si hetisiwa nghingiriko lowu landzelaka, vulavurisana na muhumelerisi loko a ri karhi a rungula xitori xa nomboro ya 1 na ku aka xipendiwankhaviswa xa tinomboro hi ku tirhisa thempuleti na makhadi ya swipendiwankhaviswa swa swiharhi tinomboro. Endzhaku ka ku yingisela xitori lexi, hetisa Nghingiriko wa 11.

Tinotsi ta muhumelerisi

- ◆ Endzhaku ka nkombiso, kombela vatekaxiave ku hetisa **Nghingiriko wa 11**.
- ◆ Pfumelela vatekaxiave ku kanela xivutiso lexi hi mitlawa leyitsongo kutani endzhaku ka swona va avelana mianakanyo ya vona na ntlawa lowukulu.
- ◆ Ehleketisisa hi ntivomarito lowu tirhisiweke hi nkarhi wa nghingiriko, xik, n'we, nomboro, mfungho wa nomboro, vito ra nomboro, rito ra nomboro, i swingani, ntlawa, nhlengelo, hlayela, swa fana.



Activity 6

What are the different ways that the number 1 was represented in the story?

Picture, dot, number symbol, number word



Nghingiriko wa 6

Xana hi tihi tinomboro to hambanahambana leti nomboro ya 1 yi yimeriweke hatona exitorini?

Xifaniso, nthonsi, mfungho wa nomboro, rito ra nomboro

Session 3: Implementing the five-group teaching model

2 hours

We have already discussed how to organise your classroom for maths teaching and learning during Mathematics focus time. This section outlines how to plan and implement the Maths Programme and focuses on preparing for the teaching of Weeks 1 and 2 of Term 1.

Term 1 Content Summary (Weeks 1–2)

(1 hour)

Facilitator's notes

- ◆ PPT: Daily Mathematics focus time (*Concept Guide*, page 82, Figure 33) and Week 1 of Appendix B.
- ◆ Refer participants to Week 1 of Appendix B: Term 1 Weekly Content Summary (Weeks 1–2). Explain that the Weekly Content Summary provides a summary of the maths content for each week. Explain that this framework was developed and then the content of the *Activity Guides* was written.
- ◆ Outline the different features of the week. Read the whole class activities, teacher-guided activity and independent small group (workstation) activities. Have participants work in groups to complete **Activity 12**.
- ◆ Focus on the structure of the Weekly Content Summary:
 - Content Area, Topic, New knowledge, Practise
 - Whole class activities: done with all the learners, activities linked to the Content Area and Topic, involves a routine that includes rhymes/songs, oral counting and counting objects.
 - Teacher-guided small group activity: focuses specifically on the concepts to be taught, involves a small group of six to eight learners.
 - Independent small group (workstation) activities: provide practice and consolidation of the concept being introduced in the whole class and teacher-guided activities.
- ◆ Explain that the Weekly Content Summary provides a structure and framework for planning the Mathematics focus time each week.

Appendix B: Term 1 Weekly Content Summary (Weeks 1–2) provides a summary of the content and offers suggestions for teaching and learning maths for each week with the following information:

- ◆ main Content Area Focus for the week
- ◆ topic(s) to be covered
- ◆ New knowledge and Practise focus for the week
- ◆ suggested activities for whole class and small groups (teacher-guided activity and workstation activities) for the week.

Sexini ya 3: Ku tirhisa modlolo wa madyondziselo ya milawu leya ntlhanu 2 wa tiawara

Se hi kanerile hilaha u nga lulamisaka hakona kamara ra wena ro dyondzela ra ku dyondzisa na ku dyondza matematiki hi nkarhi wa nkongomo wa Matematiki. Xiyenge lexi xi katsakanya hilaha ku kunguhatiwaka na ku tirhisiwa hakona Nongonoko wa Matematiki naswona xi kongomisa eka ku lulamisela ku dyondzisiwa ka Mavhiki ya 1 na 2 ya Kotara ya 1.

Nkatsakanyo wa Vundzeni wa Kotara ya 1

(Mavhiki ya 1-2)

(1 ya awara)

Tinotsi ta muhumelerisi

- ◆ PPT: Nkarhi wa nkongomo wa Matematiki wa siku na siku (*Xiletelo xa Minongoti*, pheji ya 83, Xifaniso xa 33) na Vhiki ra 1 ra Xiengetelwa B.
- ◆ Kongomisa vatekaxiave eka Vhiki ra 1 ra Xiengetelwa xa B: Nkomiso wa Vundzeni wa Vhiki na Vhiki wa Kotara ya 1 (Mavhiki ya 1-2). Hlamusela hi vutalo leswaku Nkomiso wa Vundzeni wa Vhiki na Vhiki wu nyika nkomiso wa vundzeni bya matematiki bya vhiki rin'wana na rin'wana. Hlamusela hi vutalo leswaku rimba leri ri hlulukisiwile kutani endzhaku ka swona vundzeni bya *Swiletelo swa Migingiriko* swi tsariwile.
- ◆ Katsakanya swihlawulekisi swo hambanahambana swa vhiki. Hlaya migingiriko ya tllasi hinkwayo, nghingiriko lowu leteriwaka hi mudyondzisi na migingiriko ya mitlawa leyitsongo (xitichi xo tirhela) leyi tshunxekeke. Endla leswaku vatekaxiave va tirha hi mitlawa ku hetisa **Nghingiriko wa 12**.
- ◆ Kongomisa eka xivumbeko xa Nkomiso wa Vundzeni wa Vhiki na Vhiki:
 - Xiyenge xa Vundzeni, Nhlokomhaka, Vutivi byintshwa, Titoloveti
 - Migingiriko ya tllasi hinkwayo: leyi endlwaka na vadyondzi hinkwavo, migingiriko leyi xakelanisiweke na Xiyenge xa Vundzeni na Nhlokomhaka, xi khumba migingiriko ya siku na siku leyi yi katsaka tirhayimi/tinsimu, ku hlayela ka swanomu na ku hlayela michumu.
 - Nghingiriko wa migingiriko leyitsongo leyi leteriwaka hi mudyondzisi: wu kongomisa ngopfungopfu eka minongoti leyi faneleke ku dyondzisiwa, wu khumba ntlawa lowutsongo wa tsevu kufika eka nhungu wa vadyondzi.
 - Migingiriko ya mitlawa leyitsongo (xitichi xo tirhela) leyi tshunxekeke: yi nyika vutitoloveti na vutiyisi bya nongoti lowu nga eku tivisiweni eka migingiriko ya tllasi hinkwayo na migingiriko leyi leteriwaka hi mudyondzisi.
- ◆ Hlamusela hi vutalo leswaku Nkomiso wa Vundzeni wa Vhiki na Vhiki wu nyika xivumbeko na rimba ra nkonguhato wa nkarhi wa nkongomo wa Matematiki wa vhiki rin'wana na rin'wana.

Xiengetelwa xa B: Nkomiso wa Vundzeni wa Vhiki na Vhiki wa Kotara ya 1 (Mavhiki ya 1-2) wu nyika nkomiso wa vundzeni naswona wu nyika swiringanyeto swa madyondziselo na madyondzelo ya matematiki ya vhiki rin'wana na rin'wana ku ri na vuxokoxoko lebyi landzelaka:

- ◆ Nkongomokulu wa Xiyenge xa Vundzeni wa vhiki
- ◆ (ti)nhlokomhaka leyi faneleke ku angarheliwa
- ◆ nkongomo wa Vutivi byintshwa na Titoloveti wa vhiki leri
- ◆ migingiriko leyi ringanyetiwa ya tllasi hinkwayo na mitlawa leyitsongo (nghingiriko lowu leteriwaka hi mudyondzisi na migingiriko ya le ka xitichi xo tirhela) ya vhiki.

Read whole class activities, teacher-guided activity and workstation activities in Appendix B: Term 1 Weekly Content Summary (Weeks 1–2).



Activity 7

Look at Appendix B: Term 1 Weekly Content Summary (Weeks 1–2). Answer the questions.

Questions	Week 1	Week 2
What is the Content Area Focus for the week?	Numbers, Operations and Relationships	Numbers, Operations and Relationships
What are the key concepts that learners will be learning?	Oral counting Counting objects	Number symbols Number words
What new knowledge is introduced?	Oral counting 1–5 Counting objects 1–3 One-to-one correspondence Sequencing events	Number 1 Solving problems in everyday contexts
What skills are being practised in Week 2?		Oral counting 1–5 Counting objects 1–3 Vocabulary from Week 1

Facilitator's notes

- ◆ PPT: Briefly review the five-group teaching model and how the Maths Programme's focus time activities are organised (whole class, small group and free choice activities).
- ◆ Remind participants that the focus is on one concept/topic at a time from one Content Area.

Activity Guide: Term 1

Facilitator's notes

- ◆ Explain that *Activity Guide: Term 1* provides teachers with weekly suggestions for teaching maths in Grade R.
- ◆ PPT: Features of *Activity Guide: Term 1* (*Activity Guide: Term 1*, page 6/7).
- ◆ Explain that the next activity will give participants an opportunity to learn more about *Activity Guide: Term 1*.
- ◆ Let participants work in small groups to complete **Activity 13** and then share their responses with the large group.
- ◆ Make links between *Activity Guide: Term 1* and the Weekly Content Summary.

Hlaya migingiriko ya tlilasi hinkwayo, nghingiriko lowu leteriwaka hi mudyondzisi na migingiriko ya le ka xitichini xo tirhela leyi nga eka Xiengetelwa xa B: Nkomiso wa Vundzeni wa Vhiki na Vhiki wa Kotara ya 1 (Mavhiki ya 1-2).



Nghingiriko wa 7

Languta Xiengetelwa xa B: Nkomiso wa Vundzeni wa Vhiki na Vhiki wa Kotara ya 1 (Mavhiki ya 1-2). Hlamula swivutiso leswi.

Swivutiso	Vhiki ra 1	Vhiki ra 2
Xana hi wihi Nkongomo wa Xiyenge xa Vundzeni wa vhiki leri?	Tinomboro, Tioparexini na Vuxaka	Tinomboro, Tioparexini na Vuxaka
Xana hi yihi minongotikulu leyi vadyondzi va nga ta va va ri eku yi dyondzeni?	Ku hlayela ka swanomu Ku hlayela michumu	Mifungo ya tinomboro Tinomboro marito
Xana i vutivi byintshwa muni byi tivisiwaka?	Ku hlayela ka swanomu 1-5 Ku hlayela michumu 1-3 Ku yelana ka xin'we-eka-xin'we Ku longoloxela swiendleko swa siku na siku	Nomboro ya 1 Ku ololoxa swiphiso leswi nga eka mivangu ya masiku hinkwawo
Xana i swikili swihi swi vaka swi titolovetiwa?		Ku hlayela ka swanomu 1-5 Ku hlayela michumu 1-3 Ntivomarito kusuka eka Vhiki ra 1

Tinotsi ta muhumelerisi

- ◆ PPT: Kambisisa hi ku komisa modlolo wa madyondziselwa wa mitlawa ya ntlhanu na hilaha migingiriko ya mikarhi ya nkongomo ya Nongonoko wa Matematiki yi lulamisiwaka hakona (migingiriko ya tlilasi hinkwayo, ya mitlawa leiytsongo na ya ku hlawula u tshunxekile).
- ◆ Tsundzuxa vatekaxiave leswaku nkongomo wu le ka nongoti wun'we/nhlokomhaka yin'we hi nkarhi kusuka eka Xiyenge xa Vundzeni xin'we.

Xiletelo xa Migingiriko: Kotara ya 1

Tinotsi ta muhumelerisi

- ◆ Hlamusela hi vutalo leswaku *Xiletelo xa Migingiriko: Kotara ya 1* xi nyika vadyondzisi swiringanyeto swa vhiki na vhiki swa ku dyondzisa matematiki eka Giredi ya V.
- ◆ PPT: Swihlawulekisi swa *Xiletelo xa Migingiriko: Kotara ya 1* (*Xiletelo xa Migingiriko: Kotara ya 1*, pheji ya 6/7).
- ◆ Hlamusela hi vutalo leswaku nghingiriko lowu landzelaka wu ta nyika vatekaxiave xivandlanene xa ku dyondza swo tala hi mayelana na *Xiletelo xa Migingiriko: Kotara ya 1*.
- ◆ Endla leswaku vatekaxiave va tirha hi mitlawa leiytsongo ku hetisa **Nghingiriko wa 13** kutani endzhaku ka swona va avelana miangulo ya vona na ntlawa lowukulu.
- ◆ Endla vuxakelani exikarhi ka *Xiletelo xa Migingiriko: Kotara ya 1* na Nkomiso wa Vundzeni wa Vhiki na Vhiki.

The *Activity Guides* provide Grade R teachers with a structure and framework and offer weekly suggestions for maths teaching and learning.

Refer to Weeks 1 and 2 in *Activity Guide: Term 1* and the Weekly Content Summary in Appendix B. Complete Activity 13 in your group.



Activity 8

1. Look at *Activity Guide: Term 1* and add the information to the table.

Race around <i>Activity Guide: Term 1</i>	
What is on pages 6, 8 and 10?	
On which page is the 'Our classroom rules' poster?	
On which pages is the content overview for Term 1?	
What information is at the start of each new week?	
Find the <i>Grade R Maths family story</i> .	
Which song is introduced in Week 2?	
Find where number 1 is introduced.	
Find a whole class activity that focuses on oral counting.	
Find a teacher-guided activity that focuses on one-to-one correspondence.	
Find a workstation activity that focuses on consolidating the number concept '1'.	

2. Refer to the whole class activities, teacher-guided activity and workstation activities in Appendix B. Find these activities in *Activity Guide: Term 1*.



In Grade R assessment is informal and continuous. We need to observe learners throughout the day, inside and outside the classroom.

The Maths Programme is designed around the rotation of small groups during a week and the teacher pays special attention to one group a day, watching and listening as the learners complete specific tasks. This time gives the teacher the opportunity to carefully observe each learner and gather information on their progress.

Swiletelo swa Migingiriko swi nyika vadyondzisi va Giredi ya V xivumbeko na rimba na ku nyika swiringanyeto swa vhiki na vhiki swa madyondziselo na madyondzelo ya matematiki.

Kongomisa eka Mavhiki ya 1 na 2 eka *Xiletelo xa Migingiriko: Kotara ya 1* na Nkomiso wa Vundzeni wa Vhiki na Vhiki lowu nga eka Xiengetelwa xa B. Hetisani Nghingiriko wa 13 entlaweni wa n'wina.



Nghingiriko wa 8

1. Languta *Xiletelo xa Migingiriko: Kotara ya 1* na ku engetela vuxokoxoko etafuleni.

Tsutsumisa mahlo eka <i>Xiletelo xa Migingiriko: Kotara ya 1</i>	
Xana i yini leswi nga eka tipheji ta , 9 na 11?	
Xana phositara ya 'Milawu ya kamara ro dyondzela ra hina' yi le ka pheji yihi?	
Xana nkatsakanyo wa vundzeni wa Kotara ya 1 wu le ka tipheji tihi?	
Xana i vuxokoxoko muni lebyi byi nga emasungulweni ya vhiki rintshwa rin'wana na rin'wana?	
<i>Kuma Xitori xa ndyangu xa Matematiki ya Giredi ya V.</i>	
Xana i risimu rihi ri tivisiwaka eka Vhiki ra 2?	
Kuma laha nomboro ya 1 yi tivisiwaka kona.	
Kuma nghingiriko wa tilasi hinkwayo lowu wu kongomisaka eka ku hlayela ka swanomu.	
Kuma nghingiriko lowu leteriwaka hi mudyondzisi lowu wu kongomisaka eka ku yelana ka xin'we-eka-xin'we.	
Kuma nghingiriko wa le ka xitichi xo tirhela lowu wu kongomisaka eka ku tiyisa nongoti wa nomboro ya '1'.	

2. Kongomisa eka migingiriko ya tilasi hinkwayo, nghingiriko lowu leteriwaka hi mudyondzisi na migingiriko ya le ka xitichi xo tirhela leyi nga eka Xiengetelwa xa B. Kuma migingiriko leyi eka *Xiletelo xa Migingiriko: Kotara ya 1*.



Eka Giredi ya V makambeleso i ya nkamafundza na lama yaka emahlweni. Hi fanele ku xiyaxiya vadyondzi esikwini hinkwaro, endzeni na le handle ka kamara ro dyondzela.

Ngononoko wa Matematiki wu endlwile hi mayelana na ncincano wa mitlawa leyitsongo evhikini naswona mudyondzisi u kongomisa miehleketo eka ntlawa wun'we hi siku, a hlalela na ku yingisela loko vadyondzi va ri karhi va hetisa swintirhwana swo karhi. Nkarhi lowu wu nyika mudyondzisi xivandlanene xa ku xiyaxiya hi vukheta mudyondzi un'wana na un'wana na ku hlengeleta vuxokoxoko hi mayelana na ku ya emahlweni ka yena.

Look at the shaded block at the end of the teacher-guided activity in Week 2: '**Check that learners are able to**'. The eye icon reminds us that we need to observe the learners while they are busy, and we need to listen carefully while they are talking to us and to their peers.

The teacher makes a mental note of each learner and once the learners have left for the day, she writes down her observations in a dedicated observation book that has space for each learner's notes.

Poster Book and Resource Kit

(10 minutes)

Facilitator's notes

- ◆ Explain that the *Resource Kit* apparatus will be used during teacher-guided activities and that there is enough apparatus for a small group of six to eight learners. Remind participants of the contents of the *Resource Kit* and show them the following pieces of apparatus and discuss how each will be used:
 - counting materials: coloured discs and sticks, fruit and animal counters, Unifix blocks
 - dice
 - structure beads
 - number cards (number symbols and number words)
 - attribute blocks.
- ◆ Show participants the *Poster Book* and explain that there are activities in the *Activity Guides* that use the *Poster Book* to stimulate discussion and link maths to familiar contexts at school, home and in the community.

The *Resource Kit* has enough apparatus for a small group of six to eight learners. The apparatus that will be used in Term 1 Weeks 1 and 2 includes:

- ◆ counters: animal and fruit counters
- ◆ number cards: number symbol (1) and number word (one).

Facilitator's notes

- ◆ Give a *Resource Kit* and a *Poster Book* to each participant.

You will each receive a *Resource Kit* and a *Poster Book*.

Refer to pages 6–17 of *Activity Guide: Term 1* to read about classroom resources and setting up a maths learning environment.

Languta buloko leyi dzwihatiweke emakumu ka nghingiriko lowu leteriweke hi mudyondzisi eka Vhiki ra 2: '**Kamba leswaku vadyondzi va kota ku**'. Mfungho wa tihlo wu hi tsundzuxa leswaku hi fanele ku xiyaxiya vadyondzi loko va ri eku tirheni, naswona hi fanele ku yingisela hi vukheta loko va ri eku vulavuleni na hina na tintangha ta vona.

Mudyondzisi u endla noti ya miehleketo ya mudyondzi un'wana na un'wana naswona xikan'wekan'we loko vadyondzi va humile eka siku rolero, u tsala mixiyaxiyo ya yena eka buku ya mixiyaxiyo leyi a endleriweke yona leyi yi nga na tinotsi ta mudyondzi un'wana na un'wana.

Buku ya Tiphositara na Khiti ya Swipfuno

(10 ra timinete)

Tinotsi ta muhumelerisi

- ◆ Hlamusela hi vutalo leswaku switirhisiwa swa *Khiti ya Swipfuno* swi ta tirhisiwa hi nkarhi wa migingiriko leyi leteriweke hi mudyondzisi na leswaku ku na switirhisiwa swo enela swa ntlawa lowutsongo wa tsevu kufika eka nhungu wa vadyondzi. Tsundzuxa vatekaxiave hi leswi nga endzeni ka *Khiti ya Swipfuno* kutani u va komba swiphemu leswi landzelaka swa switirhisiwa kutani u kana hilaha xin'wana na xin'wana xi nga ta tirhisiwa hakona:
 - timatheriyali to hlayela: tidisiki leti hlovohatiweke na swimhandzana, mihandzu na swihlayeri swa swiharhi, na tibuloko ta Unifix
 - madayizi
 - vuhlalu bya swivumbeko
 - makhadi ya tinomboro (mifungho ya tinomboro na mavito ya tinomboro)
 - tibuloko ta swihlawulekisi.
- ◆ Komba vatekaxiave *Buku ya Tiphositara* kutani u hlamusela hi vutalo leswaku ku na migingiriko eka *Swiletelo swa Migingiriko* leswi swi tirhisaka *Buku ya Tiphositara* ku nyanyula nkanelo na ku xakelanisa matematiki eka mivangu leyi nga toloveleka exikolweni, ekaya na le mugangeni.

Khiti ya Swipfuno yi na switirhisiwa swo enela swa ntlawa lowutsongo swa tsevu kufika eka nhungu wa vadyondzi. Switirhisiwa leswi swi nga ta tirhisiwa eka Mavhiki ya 1 na 2 Kotara ya 1 swi katsa:

- ◆ swihlayeri: swihlayeri swa swiharhi na swihlayeri swa mihandzu
- ◆ makhadi ya tinomboro: mfungho wa nomboro (1) na rito ra nomboro (n'we).

Tinotsi ta muhumelerisi

- ◆ Nyika mutekaxiave un'wana na un'wana *Khiti ya Swipfuno* na *Buku ya Tiphositara*.

Un'wana na un'wana u ta kuma *Khiti ya Swipfuno* na *Buku ya Tiphositara*.

Kongomisa tipheji ta 6–17 ta *Xiletelo xa Migingiriko: Kotara ya 1* ku hlaya hi mayelana na swipfuno swa le kamareni ro dyondzela na ku lulamisa mbangu wo dyondzela matematiki.

Closing activities

(10 minutes)

Facilitator's notes

- ◆ **Lessons learnt:** Ask participants to think about what they have learnt during the workshop and to complete **Activity 14** individually.
- ◆ **Take back to school task:** Read through this task. Ask if there is anything that is not clear and that requires more explanation.
- ◆ **Evaluation:** Hand out copies of the Workshop Evaluation Form and have participants complete the form.
- ◆ **Next workshop:** Ask participants to bring the *Poster Book*, *Concept Guide* and *Activity Guide: Term 1* to the next workshop. Give dates for the next workshop.
- ◆ **Register:** Remind all participants to make sure that they have signed the register.
- ◆ Close the workshop.



Activity 9

Lessons learnt: Think about what you learnt during the workshop and complete the table.

Things I am already doing that work well	New ideas that I would like to try



Take back to school task

1. Read the *Concept Guide* pages that were referred to during this workshop.
2. Use *Activity Guide: Term 1* to plan and implement Weeks 1–2 of the Maths Programme.
3. Reflect on how the Maths Programme's guiding principles informed teaching and learning in your classroom.
4. Set up a maths area. Take a photograph of it and bring it to the next workshop.

Tinotsi ta muhumerisi

- ◆ **Tidyondzotsongo leti dyondziweke:** Kombela vatekaxiave ku ehleketa hi mayelana na leswi va swi dyondzeke hi nkarhi wa ndzetelavutivi na ku hetisa **Nghingiriko wa 14** hi un'weun'we.
- ◆ **Xintirhwana xo tlhelela na xona exikolweni:** Hlaya xintirhwana lexi. Vutisa loko ku ri na xihhi kumbe xihhi lexi xi nga riki erivaleni naswona xi lavaka ku hlamuseriwa hi vutalo swinene.
- ◆ **Nkambelo:** Phakela tikopi ta Fomo ya Nkambelo wa Ndzetelavutivi kutani u endla leswaku vatekaxiave va tatisa fomo leyi.
- ◆ **Ndzetelavutivi lowu landzelaka:** Kombela vatekaxiave ku ta na *Buku ya Tiphositara, Xiletelo xa Minongoti na Xiletelo xa Migingiriko: Kotara ya 1* eka ndzetelavutivi lowu landzelaka. Nyika masiku ya ndzetelavutivi lowu landzelaka.
- ◆ **Rhijisitara:** Tsundzuxa vatekaxiave hinkwavo ku tiyisisa leswaku va sayinile rhijisitara leri.
- ◆ Pfala ndzetelavutivi lowu.

**Nghingiriko wa 9**

Tidyondzotsongo leti dyondziweke: Ehleketa hi mayelana na leswi u swi dyondzeke hi nkarhi wa ndzetelavutivi kutani u hetisa tafula leri.

Swilo leswi ndzi swi endlaka leswi swi tirhaka kahle swinene	Mianakanyo yintshwa leyi ndzi tsakelaka ku yi ringeta

**Xintirhwana xo tlhelela na xona exikolweni**

1. Hlaya tipheji ta *Xiletelo xa Minongoti* leti ku kongomisiweke eka tona hi nkarhi wa ndzetelavutivi.
2. Tirhisa *Xiletelo xa Migingiriko: Kotara ya 1* ku kunguhata na ku tirhisa Mavhiki ya 1-2 ya Nongonoko wa Matematiki.
3. Ehleketisisa hi mayelana na hilaha milawu yo letela ya Nongonoko wa Matematiki yi leteleka madyondziselo na madyondzelo ekamareni ro dyondzela ra wena.
4. Lulamisa ndhawu ya matematiki. Teka xinepe xa yona kutani u ta na xona eka ndzetelavutivi lowu landzelaka.



Bring the following to the next workshop:

- ◆ *Poster Book*
- ◆ *Concept Guide*
- ◆ *Activity Guide: Term 1.*

Evaluation

Complete the Evaluation Form.



Tana na leswi landzelaka eka ndzetelavutivi lowu landzelaka:

- ◆ *Buku ya Tiphositara*
- ◆ *Xiletelo xa Minongoti*
- ◆ *Xiletelo xa Migingiriko: Kotara ya 1*

Nkambelo

Tatisa Fomo leya Nkambelo.

APPENDIX B: TERM 1 WEEKLY CONTENT SUMMARY (WEEKS 1-2)

Term 1: Activity Plan

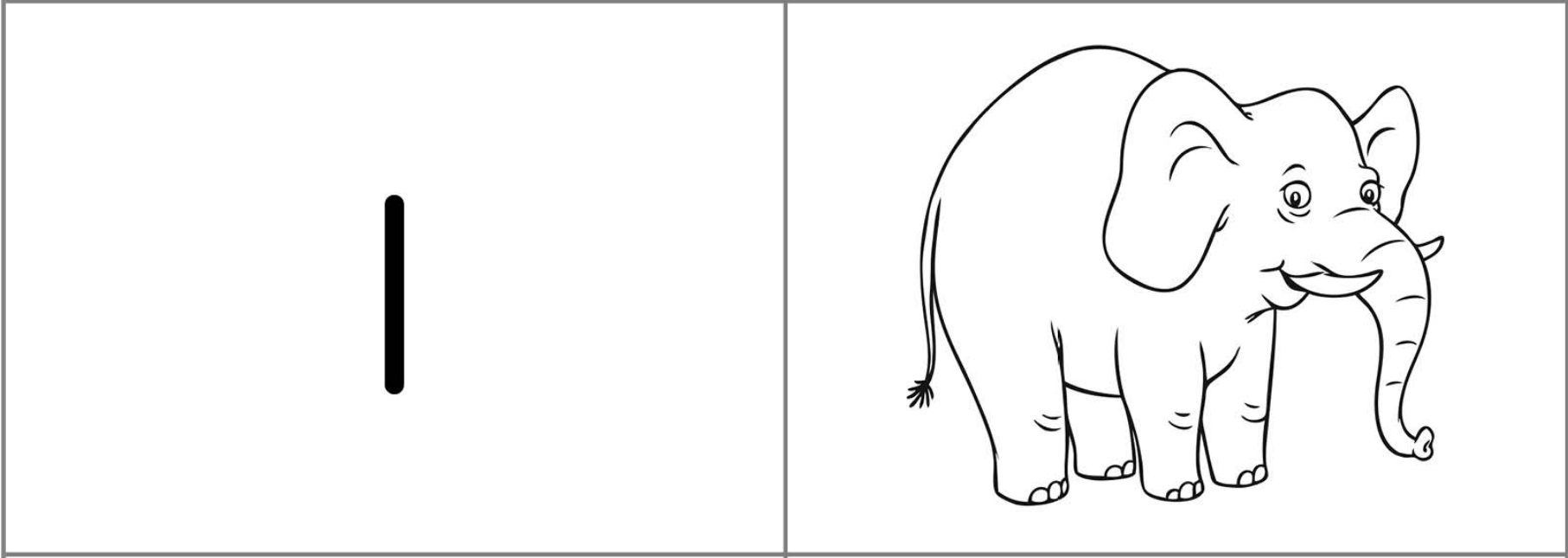
Week 1				
CONTENT AREA: NUMBERS, OPERATIONS AND RELATIONSHIPS				
TOPIC: Oral counting and counting objects				
INTRODUCE NEW KNOWLEDGE: Oral counting 1–5, counting objects 1–3, one-to-one correspondence, sequencing daily programme				
Whole class activities		Teacher-guided activity	Workstation activities	
Day 1	Routine, class rules, learner symbols and daily programme.	No teacher-guided small group activity in the first week to allow the teacher to rotate between all five workstations: guiding, assisting and encouraging the learners. Some learners may not have seen or used the equipment before so the teacher will need to demonstrate and support their first attempts.	Activity 1	Sorting animal and fruit counters by colour (from the <i>Resource Kit</i>).
Day 2	Helper’s chart, rhyme, <i>Grade R Maths family story</i> .		Activity 2	Playdough or clay modelling.
Day 3	Helper’s chart, Tidy-up chart, rhyme, oral counting and the <i>Grade R Maths family story</i> .		Activity 3	Draw a picture.
Day 4	Rhyme, oral counting, counting objects, sequencing daily events, bowls.		Activity 4	Six-piece puzzle.
Day 5	Rhyme, oral counting, learners’ symbols.		Activity 5	Building blocks.
Week 2				
CONTENT AREA: NUMBERS, OPERATIONS AND RELATIONSHIPS				
TOPIC: Number symbols and number words				
INTRODUCE NEW KNOWLEDGE: Introduce number 1, solving problems in everyday contexts (rhymes and posters)				
PRACTISE: Oral counting 1–5, counting objects 1–3, vocabulary from previous week				
Whole class activities		Teacher-guided activity	Workstation activities	
Day 1	Song, oral counting, introduce number 1 and the number 1 frieze, body parts (‘how many?’ games), find one object.	Support learners in their efforts to complete tasks. Ask guiding questions and encourage learners to share their ideas. Count objects: one-to-one correspondence. Sort animal counters according to colour. Match number 1 symbol and word cards with dot card and animal counters.	Activity 1	Matching counters to dots using egg boxes.
Day 2	Song, oral counting, frieze for number 1, body games.		Activity 2	Make one playdough object and draw it.
Day 3	Song, oral counting, counting objects, reinforce number 1, look for 1 object.		Activity 3	‘One’ template using playdough.
Day 4	Rhyme, oral counting, problem solving – poster story.		Activity 4	Building blocks.
Day 5	Rhyme, oral counting, counting objects in the poster, solving problems.			

XIENGETELWA XA B: NKOMISO WA VUNDZENI WA VHIKI NA VHIKI WA KOTARA YA 1 (MAVHIKI YA 1-2)

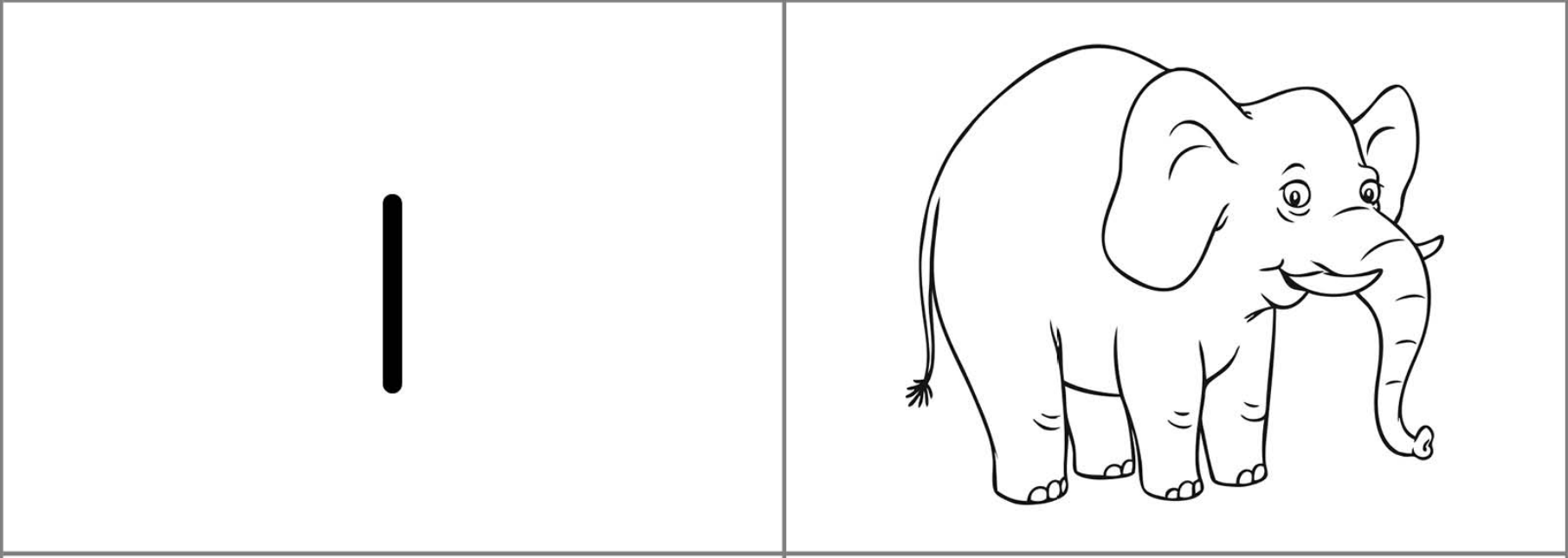
Kotara ya 1: Kungu ra Migingiriko

Vhiki ra 1				
XIYENGE XA VUNDZENI: TINOMBORO, TIOPAREXINI NA VUXAKA				
NHLOKOMHAKA: Ku hlayela ka swanomu na ku hlayela michumu				
TIVISA VUTIVI BYINTSHWA: Ku hlayela ka swanomu 1-5, ku hlayela michumu 1-3, ku yelana ka xin'we-eka-xin'we, ku longoloxela nongonoko wa siku na siku				
Migingiriko ya tllasi hinkwayo		Nghingiriko lowu leteriwaka hi mudyondzisi	Migingiriko ya le ka xitichi xo tirhela	
Siku ra 1	Migingiriko ya siku na siku, milawu ya tllasi, mifungo ya vadyondzi na nongonoko wa siku na siku.	A ku na nghingiriko wa mitlawa leyitsongo leyi leteriwaka hi mudyondzisi eka vhiki ro sungula ku pfumelela ku rhendzeleka exikarhi ka switichi swo tirhela leswa ntlhanu hinkwaswo: letela, pfuneta na ku khutaza vadyondzi lava. Vadyondzi van'wana va nga ha va va nga vonani kumbe va nga tirhisangi switirhisiwa leswi eka nkarhi lowu nga hundza hikokwalaho mudyondzisi u ta fanela ku kombisa na ku seketela miringeto ya vona yo sungula.	Nghingiriko wa 1	Ku ava swihlayeri swa swiharhi na swihlayeri swa mihandzu hi muhlovo (kusuka eka <i>Khiti ya Swipfuno</i>). Vumba byo tlangisa kumbe vumba byo modlola. Dirowa xifaniso. Xiphazamiso xa swiphemu swa tsevu. Tibuloko to aka
Siku ra 2	Chatu ya mupfuni, rhayimi, <i>Xitori xa ndyangu xa Matematiki ya Giredi ya V.</i>			
Siku ra 3	Chatu ya mupfuni, Chatu yo basisa, rhayimi, ku hlayela ka swanomu na <i>Xitori xa ndyangu xa Matematiki ya Giredi ya V.</i>			
Siku ra 4	Rhayimi, nhlayelo wa nomu, ku hlayela michumu, ku longoloxela swiendleko swa siku na siku, mikambana.			
Siku ra 5	Rhayimi, ku hlayela ka swanomu, mifungo ya vadyondzi.			
Vhiki ra 2				
XIYENGE XA VUNDZENI: TINOMBORO, TIOPAREXINI NA VUXAKA				
NHLOKOMHAKA: Mifungo ya tinomboro na mavito ya tinomboro				
TIVISA VUTIVI BYINTSHWA: Tivisa nomboro ya 1, ku ololoxa swiphiko eka mivangu ya masiku hinkwawo (tirhayimi na tiphositara)				
TITOLOVETI: Ku hlayela ka swanomu 1-5, ku hlayela michumu 1-3, ntivomarito kusuka eka vhiki leri nga hundza				
Migingiriko ya tllasi hinkwayo		Nghingiriko lowu leteriwaka hi mudyondzisi	Migingiriko ya le ka xitichi xo tirhela	
Siku ra 1	Risimu, ku hlayela ka swanomu, tivisa nomboro ya 1 na xipendiwankhavisu xa nomboro ya 1, swirho swa miri (mitlangu ya 'i swingani?'), kuma nchumu wun'we.	Seketela vadyondzi eka matshalatshala ya vona ku hetisa swintirhwana. Vutisa swivutiso swo letela na ku khutaza vadyondzi ku avelana mianakanyo. Hlayela michumu: ku yelana ka xin'we-eka-xin'we. Ava swihlayeri swa swiharhi hi ku ya hi muhlovo. Pananisa makhadi ya mifungo ya nomboro ya 1 na makhadi ya marito ya nomboro ya 1 na makhadi ya mathonsi na swihlayeri swa swiharhi.	Nghingiriko wa 1	Ku pananisa swihlayeri eka mathonsi hi ku tirhisa mabokisi ya mandza. Endla nchumu wa vumba byo tlangisa swin'we na ku wu dirowa. Thempuleti 'yin'we' hi ku tirhisa vumba byo tlangisa. Tibuloko to aka.
Siku ra 2	Risimu, ku hlayela ka swanomu, xipendiwankhavisu xa nomboro ya 1, mitlangu ya miri.			
Siku ra 3	Risimu, ku hlayela ka swanomu, ku hlayela michumu, tiyisisa nomboro ya 1, lava nchumu wu1.			
Siku ra 4	Rhayimi, ku hlayela ka swanomu, ku ololoxa xiphiko - xitori xa phositara.			
Siku ra 5	Rhayimi, ku hlayela ka swanomu, ku hlayela michumu leyi nga ephositareni, ku ololoxa swiphiko.			

APPENDIX C: NUMBER 1 FRIEZE CARDS



XIENGETELWA XA C: MAKHADI YA SWIPENDZIWANKAVISO SWA NOMBORO YA 1





one



n'we

Workshop 1 Evaluation Form

1. Did the workshop meet your expectations?

2. What did you learn in this workshop that helped you the most?

3. Was there anything that you did not like or had difficulty understanding?

4. How will you apply what you have learnt in your Grade R classroom?

5. Do you have any suggestions for improving further workshops?

Fomo ya Nkambelo ya Ndzetelavutivi wa 1

1. Xana ndzetelavutivi lowu wu fikelerile swilanguteriwa swa wena?

2. Xana u dyondzile yini eka ndzetelavutivi lowu wu ku pfuneke swinene?

3. Xana a ku ri na xilo xihi kumbe xihi lexi u nga xi tsakelangiki kumbe u veke na ku tikeriwa hi ku xi twisisa?

4. Xana u ta swi tirhisa njhani leswi u swi dyondzeke ekamareni ra wena ro dyondzela ra Giredi ya V?

5. Xana u na swiringanyeto swihi kumbe swihi swa ku antswisa miletelavutivi yo yisa emahlweni?
