



**GAUTENG PROVINCE**  
EDUCATION  
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GROWING GAUTENG TOGETHER

Tshivenda/English

# **Mbekanyamushumo ya u Khwinifhadza Mbalo dza Gireidi ya T Grade R Mathematics Improvement Programme**



**Wekishopo ya 1 • Workshop 1  
Nyendedzi ya Mutshimbidzi • 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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Programme conceptualisation and management: Cally Kuhne and Tholisa Matheza  
Translation and publishing project management: Arabella Koopman  
Translation: Alugumi Rathumbu  
Editing (Tshivenda): Ntshengedzeni Edward Mudau  
Illustrations: Jiggs Snaddon-Wood

Mbalo dza Gireidi ya T na Thandela ya u Khwinisa Dzinyambo ndi vhurangeli ha **Gauteng Department of Education** na vhafarakani navho vha ndeme vha, **Gauteng Education Development Trust**.

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U pindulela na ndangulo ya thandela ya nyanadzo: Vho Arabella Koopman  
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U pindulela kha Tshivena: Vho Alugumi Rathumbu  
U dzudzanya na u vhalulula nga Tshivena: Vho Ntshengedzeni Edward Mudau  
Muoli: Vho Jiggs Snaddon-Wood

# 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

# Zwi re ngomu

## Manweledzo

Ndivho .....	siatari la 7
Mvelelo dza u guda .....	siatari la 7
Magudiswa a wekishopo .....	siatari la 7
Milayo i no do shuma .....	siatari la 9
Ndugiselo .....	siatari la 9
Matheriala .....	siatari la 9

## Magudiswa a wekishopo

Dzulo la 1: Orientsheni kha Mbekanyamushumo ya Mbalo .....	siatari la 11
Dzulo la 2: Nomboro, Tswayo na Vhushaka .....	siatari la 39
Dzulo la 3: U thoma modele wa u funza wa zwigwada zwa vhatanu .....	siatari la 55

### Thumetshedzo ya A: Milayo ya Nyendedzi dza u Funza Mbalo kha

Gireidi ya T .....	siatari la 67
--------------------	---------------

### Thumetshedzo ya B: Manweledzo a Magudiswa a Vhege nga Vhege

a Kotara ya 1 (Vhege ya 1-2) .....	siatari la 71
------------------------------------	---------------

### Thumetshedzo ya C: Gara la luvhondoni la mbalo la nomboro 1 .....

Fomo ya u Linga ya Wekishopo ya 1 .....	siatari la 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)

# Manweledzo

## Ndivho

Iyi ndi wekishopo ya u thoma kha dza fumimbili dza Mbekanyamushumo ya u Khwinifhadza Mbalo dza Gireidi ya T (Mbekanyamushumo ya Mbalo), ine ya vhumba tshipiḁa tsha Muhasho wa Pfunzo wa Gauteng (GDE) Mbalo dza Gireidi ya T na Thandela ya u Khwinisa Dzinyambo.

Vhashelamulenzhe vha ḁo wana mafhungo nga ha zwipiḁa na milayo ya nyendedzi ya u funza mbalo kha Gireidi ya T. Vha ḁo humbula na u haseledza izwi fhasi ha nyimele ya u pulana na u funza yavho. Vhashelamulenzhe vha ḁo dovha hafhu vha sedzulusa Tshitatamennde tsha Kharikhulamu na Phoḁisi ya u Linga (TSHIPHOKHALI) Masia a Magudiswa a Mbalo dza Gireidi ya T. Vha ḁo pulana tshifhinga tsho sedzwaho tsha mbekanyamushumo ya ḁuvha liḁwe na liḁwe ya Mbalo lwa vhege mbili dza u thoma dza Kotara ya 1. Nga tshifhinga tsha wekishopo vha ḁo humbula nga milayo ya nyendedzi ine ya ḁalutshedza u funza na u guda.

*\*Masia a Magudiswa a Mbalo dza Gireidi ya T a dzhiwa u bva kha Tshitatamennde tsha Kharikhulamu na Phoḁisi ya u Linga (TSHIPHOKHALI): Mbalo dza Gireidi ya T (Mvetamveto ya u fhedzisela), 2011, Muhasho wa Pfunzo ya Mutheo, Afrika Tshipembe*

## Mvelelo dza u guda

- ◆ Uri vha ḁivhe Mbekanyamushumo ya Mbalo na uri i tikedza hani na u engedza magudiswa a TSHIPHOKHALI Mbalo dza Gireidi ya T
- ◆ U tandula zwipiḁa zwa Mbekanyamushumo ya Mbalo
- ◆ U pfesesa milayo ya u funza yo kumedzwaho kha Mbekanyamushumo ya Mbalo
- ◆ U pulana vhege ya Kotara ya 1 vho ḁisendeke nga modele wa u funza wa zwigwada zwa vhaḁanu
- ◆ U shuma na magudiswa a Mbekanyamushumo ya Mbalo a Kotara ya 1 Vhege ya 1-2 (Nomboro, Tswayo na Vhushaka)

## Magudiswa a wekishopo

- ◆ Dzulo ḁa 1: Orientsheni kha Mbekanyamushumo ya Mbalo (Awara 2)  
TIE
- ◆ Dzulo ḁa 2: Nomboro, Tswayo na Vhushaka (Awara 2)  
TSHISWITULO
- ◆ Dzulo ḁa 3: U thoma modele wa u funza wa zwigwada zwa vhaḁanu (Awara 2)

## 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



## Milayo i no do shuma

- ◆ Vha fare tshifhinga.
- ◆ Vha tsime luṅingothendeleki lwavho nga tshifhinga tsha madzulo.
- ◆ Vha ṅee vhaṅwe tshikhala tsha u shela mulenzhe.
- ◆ Vha thetshelese mihumbulo ya vhaṅwe.

## Ndugiselo

- ◆ Mikumedzo ya PPT

- ◆ Vha vhale:

*Nyendedzi ya Divhaipfi*, masiatari a 114–117

*Nyendedzi ya Nyito: Kotara ya 1*, masiatari a 18–21

Ṭhumetshedzo ya B: Manweledzo a Magudiswa a Vhege nga Vhege a Kotara ya 1

- ◆ Dzudzanya *Khithi ya Zwishumiswa* ya Mbekanyamushumo ya Mbalo, dzikhokhi na bambiri kha ṭafula ṅa tshigwada tshiṅwe na tshiṅwe
- ◆ Vha dzudzanye tshitori tsha tshati ya luvhondoni ya mbalo na u kuvhanganya matheriala.
- ◆ Kha vha ite themphuleithi ya nnḁu kha shithi ṅihulwane ṅa bambiri ṅa filipitshati – vha ole tshivhumbeo tsha nnḁu tsho khethekanywaho tsha bva zwipiḁa zwiṅa.
- ◆ Kha vha dzhenise muvhala kha magaraṭa a tshati ya luvhondoni ya mbalo a Nomboro 1 kha Ṭhumetshedzo ya C. Vha zwi nambatedze nga guḽuu kha khadibogisi.

## Matheriala

- ◆ Redzhisitara ya vho swikaho
- ◆ Bambiri ṅa filipitshati, dzikhokhi
- ◆ Khophi dza *Bugu ya Mushumo ya Vhashelamulenzhe*, *Nyendedzi ya Divhaipfi* na *Nyendedzi ya Nyito: Kotara ya 1*
- ◆ *Khithi dza Zwishumiswa*
- ◆ Zwipiḁa zwa phazili
- ◆ Tshati ya luvhondoni ya mbalo ya themphuleithi ya nnḁu na magaraṭa a tshati dza luvhondoni dza mbalo

# 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.

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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.

# Dzulo la 1: Orientsheni kha Mbekanyamushumo ya Mbalo

Awara 2

## Notsi dza Mutshimbidzi

- ◆ Vhashelamulenzhe vha fanela u dzula nga zwigwada zwiṭuku zwa vhathu vha rathi u ya kha vha malo. Vha tevhele milayo ya COVID-19.
- ◆ Kha vha ṅee muṅwe na muṅwe *Bugu ya Mushumo ya Vashelamulenzhe* na redzhisitara ya vho swikaho.
- ◆ Kha vha ṭanganedze vhashelamulenzhe na u ḍiḍivhadza vhone vhaṅe.
- ◆ Kha vha haseledze milayo i no ḍo shuma ya u shumisana nga tshifhinga tsha wekishopo dzoṭhe (kha vha sedze siṭari la 9).
- ◆ Kha vha ṅee vhashelamulenzhe tshikhala tsha u ḍiḍivhadza zwigwadani zwavho zwiṭuku vha koneha u ḍiḍivhadza tshigwada tshihulwane.
- ◆ Kha vha vha ṭuṭuwedze u kovhana tshenzhemo dzavho dza u pfumbudzwa na u funza.
- ◆ Kha vha humbele vhashelamulenzhe u bula ndavhelelo dzavho kha wekishopo.

## U ḍiṅwalisela

### U ṭanganedza na milayo i no ḍo shuma

(Minetse ya 10)

Vho ṭanganedzwa kha wekishopo ya mbalo ya u tou thoma kha dza fumimbili ya Mhasho wa Pfunzo wa Gauteng (GDE) Mbalo dza Gireidi ya Ṭ na Thandela ya u Khwinisa Dzinyambo.

Kha ri thome nga u ḍivhadza vhakumedzi na u tendelana nga milayo i no ḍo shuma.

### U kovhana tshenzhemo dza u funza

(Minetse ya 15)



#### Nyito ya 2

1. Kha vha dzhie tshifhinga u bvisela khagala tshenzhemo yavho ya u funza Gireidi ya Ṭ, zwiḥulusa u funza mbalo kha Gireidi ya Ṭ. Kha vha humbule nga u pfumbudzwa havho na uri zwo vha lugisela hani uri vha funze mbalo. Vha lingedze hafhu na u topola zwine vha konesa na vhuṭudzeṭudze havho kha mbalo.

2. Kha vha kovhane dziṅwe dza tshenzhemo dzavho dzavhuḍi na tshenzhemo mmbi na mufarakani navho.
3. Kha vha nange muthu muthihi u bva tshigwadani tshavho uri a ṅwale mihumbulo ye muṅwe na muṅwe a vhudza tshigwada.

### 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:

## Ndi ngani Mbakanyamushumo ya Mbalo dza Gireidi ya T?

### Notsi dza mutshimbidzi

- ◆ PPT: Manweledzo a mafhungo a re afha fhasi.
- ◆ Kha vha haseledze ndeme ya u khwinisa u guda na u funza mbalo kha Vhuimo ha Fhasi. Kha vha divhadze Mbekanyamushumo ya u Khwinifhadza Mbalo dza Gireidi ya T ya GDE sa u phalala u itela u khwaṭhisa u thomiwa ha kharikhulamu ya TSHIPHOKHALI ya Gireidi ya T.

Vhunzhi ha vhagudi vha zwikolo zwa phuraimari zwa Afrika Tshipembe a vha shumi zwavhudi kha Luambo na Mbalo. Phesenthe ya nthesa ya vhagudi i kundelwa u swikela gumotuku la zwiṭandadi zwo lavhelelwaho kha idzi thero dza ndeme. Hu na mvelaphanda i ongolowaho kha u khwinisa mvelelo dza pfunzo na u fhungudza tshikhala tsha u swikela vhukati ha vhagudi vha bvaho mitani yo fhambanaho. Zwivhanga zwa izwi zwo serekana, zwi nga nnda ha kilasirumu nahone zwi kwamiwa nga mveledziso ya vhana na mutakalo wavho u bva mbeboni.

Linwe la mafhungo a ndeme u mona na u swikelela na u dzhena khireshe, khathihi na themamveledziso na ndangulo ya tshikolo Afrika Tshipembe, ndi dzone mbudziso dza mutheo dza uri vhana vha guda mini nahone hani. U itela uri vhana vhothe vha vhe na tshikhala tsha khwine tsha u swikela vhukoni havho kha Mbalo, hu fanela u sedzwa nga u tandavhuwa u itela u katela mveledziso ya mbalo kha Gireidi ya T na, zwa ndeme, u nea vhagudisi vha Gireidi ya T na vhashumi vha re na ndivho na zwikili zwi todeaho u itela u tikedza u guda mbalo ha vhana vhatuku.

Vha GDE vho topola Mveledziso ya Vhana Vhatuku sa Tshipikwa tsha Maano a 1 avho nahone tshinwe tsha zwipikwa zwa ndeme ndi u khwinisa u guda Luambo lwa Hayani na Mbalo kha Gireidi ya T. Nga Mbekanyamushumo ya u Khwinisa Dzinyambo na Mbalo kha Gireidi ya T, vha GDE vha khou lingedza u khwinisa mashumele kha Gireidi ya T na u lugisela vhagudi u ya kha Gireidi ya 1.

Ri fulufhela uri Mbekanyamushumo ya Mbalo i do shela mulenzhe lwa ndeme kha u thomiwa ha TSHIPHOKHALI na uri zwi do khwinisa zwikhala zwi re hone zwa u guda zwa vhana vhothe vha re kha Gireidi ya T u itela uri vha bveledze vhukoni havho ho fhelelaho.

## Mbekanyamushumo ya Mbalo dza Gireidi ya T ndi mini?

### Notsi dza mutshimbidzi

- ◆ PPT: Siatari la 11 la Nyendedzi ya Divhaipfi, manweledzo a mafhungo a re afho fhasi.

Mbekanyamushumo ya Mbalo i sedzesa kha u funza na u guda divhaipfi ya mbalo nthihi kana thero nga tshifhinga tshithihi. Tsho sedzeswaho tsha ndeme kha vhege inwe na inwe ndi Sia la Magudiswa la TSHIPHOKHALI lithihi. Ndivho ntswa i divhadzwa nga:

- ◆ 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*.

- ◆ nyito dza kilasi yothe
- ◆ nyito dza zwigwada zwiṭuku: nyito dzo rangwaho phanda nga mugudisi na nyito dza vhagudi nga vhothe
- ◆ nyito dza u ḍinangela.

Mbekanyamushumo ya Mbalo:

- ◆ i tikedza, engedza na u khwaṭhisedza magudiswa a Mbalo dza Gireidi ya Ṭ dza TSHIPHOKHALI. A i dzheni vhudzuloni ha TSHIPHOKHALI nahone i pfesesa uri vhagudisi vha na ṅdivho thangeli na u pfesesa Mbalo dza Gireidi ya Ṭ dza TSHIPHOKHALI.
- ◆ i ṭuṭuwedza tshifhinga tsho sedzwaho u itela uri vhagudi vha kone u ita ṅdowendowe ya zwikili zwiswa zwe vha wana na ṅdivho, na u fhaṭela zwickhala zwa ṅdowendowe kha nyito dzo pulanwaho dza mbalo na tshenzhemo.
- ◆ i ṅea vhagudisi gaidi yo fhelelaho ine ya tikedza u funza na u guda.
- ◆ i gaidiwa nga milayo ya malo ine ya shela mulenzhe kha u funza na u guda hu bvelelaho.
- ◆ i tikedza vhagudisi kha u ita vhuṭumani vhukati ha ḍivhaipfi ya Mbalo dza Gireidi ya Ṭ nahone nga murahu ya ṅea vhukoni ha mbalo.
- ◆ i ombedzela u sedza vhagudi vhege inwe na inwe sa tshishumiswa tsha u kuvhanganya mafhungo a ṅwana muṅwe na muṅwe u itela u pulana na u linga.

Kha vha sedze kha siaṭari 13 la *Nyendedzi ya Divhaipfi* uri vha vhale zwinzhi nga Mbekanyamushumo ya u Khwinifhadza Mbalo dza Gireidi ya Ṭ.

Kha vha vhale zwinzhi nga milayo ya nyendedzi ya Mbekanyamushumo ya Mbalo kha masiaṭari a 14–73 a *Nyendedzi ya Divhaipfi*.

## 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.



## Tshifhinga tsho avhelwaho Mbalo kha Gireidi ya T̂ (Minetse ya 10)

### Notsi dza mutshimbidzi

- ◆ PPT: U avhela tshifhinga kha Gireidi ya T̂ (*Nyendedzi ya Divhaipfi*, siaṭari la 76/77, Thebuḷu ya 1).
- ◆ Kha vha rumele vhashelamulenzhe kha *Nyendedzi ya Divhaipfi*, masiaṭari a 74–77.

TSHIPHOKHALI tshi dzinginya uri tshifhinga tsha u funza tsha Mbalo kha Gireidi ya T̂ tshi fanela u vha awara dza 23 nga vhege. Fhedziha, TSHIPHOKHALI a tshi ṅetshedzi u kalwa kana u khethekanywa ha tshifhinga tshine tsha fanela u fhedzwa kha Sia la Magudiswa liṅwe na liṅwe la kotara inwe na inwe.

## Mbekanyamushumo ya ḍuvha liṅwe na liṅwe ya Mbalo kha Gireidi ya T̂ (Minetse ya 20)

Mbekanyamushumo ya ḍuvha liṅwe na liṅwe ya Gireidi ya T̂ a si mbekanyangudo u fana na dziḷa dzi shumiswaho kha gireidi dza ṅṅha.

Kha Gireidi ya T̂ ḍuvha li dzudzanywa u mona na ṅhoḍea dza mveledziso dza vhagudi. ḍuvha li thoma nga tshifhinga tsha u amba na u imba la fhela nga u awela na zwiṭori. Nga masiari, vhagudisi vha pulana nyito dza Luambo lwa Hayani, Zwikili zwa Vhutshilo na ṅdivho ya Mbalo na u pfesesa. Nga tshifhinga tsha u tamba na mvuvhano na mugudisi na vhaṅwe vhagudi hu na zwikhala zwinzhi zwa u ṅanganya na zwikili zwiswa na tshifhinga tsha u ita ṅdowendowe ya zwe zwa gudwa.

Mbekanyamushumo ya Mbalo i dzinginya ṅḍila ya u dzudzanya mbekanyamushumo ya ḍuvha liṅwe na liṅwe hu na tshifhinga tsho sedzwaho tsha Luambo lwa Hayani, Zwikili zwa Vhutshilo na Mbalo.

### Notsi dza mutshimbidzi

- ◆ PPT: Mbekanyamushumo ya ḍuvha liṅwe na liṅwe ya Gireidi ya T̂ (*Nyendedzi ya Divhaipfi*, siaṭari la 80/81, Figara ya 31).
- ◆ Kha vha rumele vhashelamulenzhe kha *Nyendedzi ya Divhaipfi*, masiaṭari a 78–81.
- ◆ Kha vha haseledze tshifhinga tsho sedzwaho tsha Mbalo hu tshi vhambedzwa na tshifhinga tsho sedzwaho tsha Luambo lwa Hayani, tsho no ḍi ḍivhadzwaho kale.

## 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.

## Tshifhinga tsho sedzwaho tsha Mbalo dūvha liñwe na liñwe

### Notsi dza mutshimbidzi

- ◆ PPT: Tshifhinga tsho sedzwaho tsha Mbalo dūvha liñwe na liñwe (*Nyendedzi ya Divhaipfi*, siaṭari la 82/83, Figara ya 33, kana nyolo i re afho fhasi). Kha vha nweledze mafhungo a re kha masiaṭari a 84–93 a *Nyendedzi ya Divhaipfi*.

### Nyendedzi dza u dzudzanya na u langa kilasirumu nga tshifhinga tsho sedzwaho tsha Mbalo

#### 1. Madzulo a Mbalo a kilasi yoṭhe

- ◆ Minetse ya 15–25
- ◆ Vhagudi vhoṭhe vha dzula vho ita tshitendeledzi na mugudisi.
- ◆ Nyito:
  - U khwaṭhisedza na u ṅetshedza divhaipfi yo funzwaho murahu.
  - U divhadza divhaipfi ntswa.
  - U engedza divhaipfi ine ndi yone yo sedzeswaho ya ndeme ya vhege:
    - u vhalela ha mutsevhetsindo (zwidade, nyimbo, u tevhekanya nomboro)
    - u vhalela zwithu
    - u vhangha thaidzo, mitambo ya muhumbulo.
  - Kha vha ṅee ndaela dza nyito dza zwigwada zwiṭuku zwiṭitshini zwa u shumela.

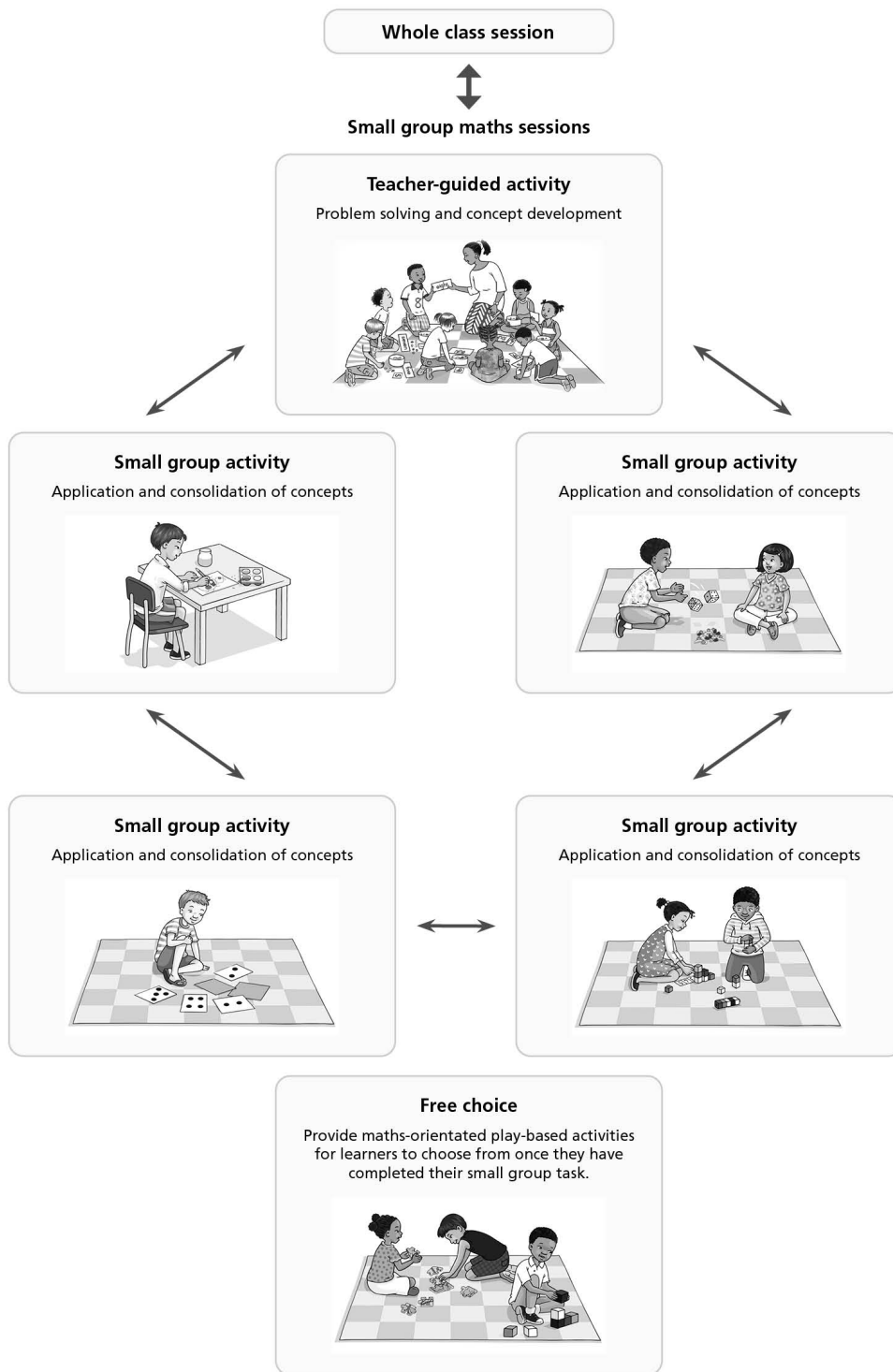
#### 2. Madzulo a Mbalo a zwigwada zwiṭuku

- ◆ Kilasi i khethekanywa ya bva zwigwada zwiṭanu zwa vhagudi vha rathi u ya kha malo tshigwada tshiñwe na tshiñwe.
- ◆ Dūvha liñwe na liñwe tshigwada tshithihi tshi shuma na mugudisi (nyito yo rangwaho phanda nga mugudisi) ngeno zwigwada zwiṅa zwi tshi shuma nga zwoṭhe kha nyito dzo pulanwaho dza mbalo zwiṭitshini zwa u shumela.
- ◆ Zwigwada zwi a tshintshana dūvha liñwe na liñwe.
- ◆ Nyito:
  - U khwaṭhisedza na u ṅetshedza zwickhala zwa u ita ṅdowendowe ya divhaipfi yo funzwaho murahu.
  - U sengulusa divhaipfi ntswa ine ya vha yo sedzeswaho kha vhege.
  - U ṅetshedza zwickhala zwa u ita ṅdowendowe ya divhaipfi ine ya vha yo sedzeswaho ya vhege.
- ◆ **Nyito yo rangwaho phanda nga mugudisi** i sedzesa kha u shuma na tshigwada tshithihi tsha vhagudi u itela u:
  - khwaṭhisedza na u ita ṅdowendowe ya divhaipfi yo funzwaho murahu
  - ombedzela u pfesesa ha divhaipfi ntswa
  - lavhelesa mvelaphanda ya vhagudi.

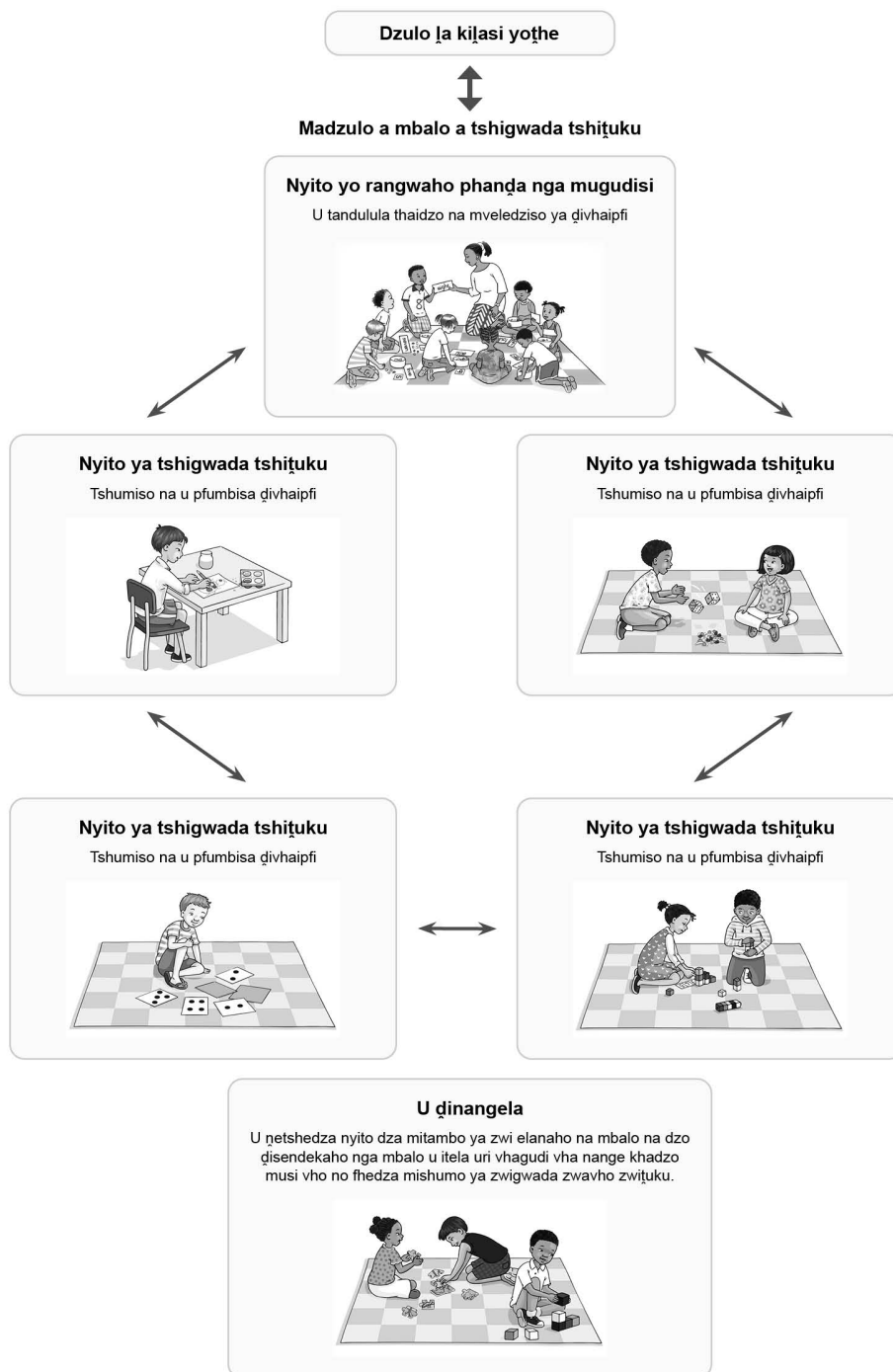
#### 3. Nyito dza u ḍinangela

- ◆ Nyito dza u ḍinangela dza u engedza dzi re na tshifhinga tsho sedzwaho tsha mbalo dzo ṅetshedzwa u itela vhagudi vho fhedzaho nyito dzavho dza tshigwada tshiṭuku.

U pfumbudza kha Luambo ho vha divhadza mutevheṭhandu wa vhege mbili dza u funza na u guda. Mbekanyamushumo ya Mbalo na yone i tevhelela maele o dzudzanywaho a u dzudzanya kilasi u itela tshifhinga tsho sedzwaho tsha Mbalo. Mutevheṭhandu wa u funza na u guda wa Mbekanyamushumo ya Mbalo wo ḍisendeka kha nyito dza zwigwada zwiṭuku ṭhanu dzine dza tshintshiwa vhukati ha vhege nthihi. Ngudo dzi thoma nga Musumbuluwo dza fhela nga Lavhuṭanu.



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



Kha vha sedze masiatari a 82–93 a *Nyendedzi ya Divhaipfi* uri vha vhale zwinzhi nga u dzudzanya kilasirumu yavho u itela madzulo a tshifhinga tsho sedzwaho tsha Mbalo a ḁuvha liṅwe na liṅwe.

# 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?

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# Dzulo la 2: Nomboro, Tswayo na Vhushaka

Awara 2

## Kotara ya 1–4 manweledzo a magudiswa (TSHIPHOKHALI)

(Minetse ya 45)

### Notsi dza mushimbidzi

- ◆ PPT: *Nyendedzi ya Divhaipfi*, masiatari la 110/111, Figara ya 41 na manweledzo kha masiatari a 110–113
- ◆ Kha vha rumele vhashelamulenzhe kha *Nyendedzi ya Divhaipfi*, masiatari a 114–137. Kha vha talutshedze uri manweledzo a magudiswa aya a netshedza muhanga wa u pulana hothe ha mbalo nahone a do shumiswa na u referentsiwa tshifhinga tshothe tsha u pfumbudza.
- ◆ PPT: Kha vha haseledze thebu. Kha vha talutshedze uri mafhungo a re nga muvhala wa lutombo a bva kha TSHIPHOKHALI na uri mafhungo a re nga muvhala mutswu ndi magudiswa ane o tou engedzwa u itela u fhaa na u engedza TSHIPHOKHALI kha Mbekanyamushumo ya Mbalo.

Mbekanyamushumo ya Mbalo yo livhanywa na nahone i engedza magudiswa a Masia a Magudiswa a Mbalo a TSHIPHOKHALI matanu. Thebu i re kha masiatari a 114–137 a *Nyendedzi ya Divhaipfi* i netshedza manweledzo a magudiswa a mbalo ane a do funzwa kha Gireidi ya T. I dovha hafhu ya sumbedza uri ndi magudiswa afhio ane a do funzwa kotara inwe na inwe.

- ◆ Mafhungo a re nga muvhala wa lutombo ndi magudiswa a bvaho kha Mbalo dza Gireidi ya T dza TSHIPHOKHALI.
- ◆ Mafhungo a re nga muvhala mutswu o tou engedzwa uri a engedze na u fhaa kha TSHIPHOKHALI.
- ◆ Thero dzo tevhekanywa u sumbedza mvelaphanda ya mveledziso u bva kha thero nthi u ya kha inwe.

Kha vha sedze masiatari a 110–113 a *Nyendedzi ya Divhaipfi* nahone vha vhale masiatari 1.1, 1.2 na 1.3 na kha masiatari a 114–117. Nga murahu ha u vhalo nomboro 1.1, 1.2 na 1.3, vha fhedzise Nyito 7 na 8.

### Notsi dza mutshimbidzi

- ◆ Vha ri vhashelamulenzhe vha fhedzise **Nyito ya 7** vha zwigwadani zwavho. Kha vha humbele muthu muthi u bva tshigwadani tshinwe na tshinwe uri a kovhe mihumbulo yatsho.



### Nyito ya 2

Kha vha sedze kha manweledzo a magudiswa a Kotara ya 1–4 u itela Sia la Magudiswa: Nomboro, Tswayo na Vhushaka, ngomu ha *Nyendedzi ya Divhaipfi* na kha linwalo la TSHIPHOKHALI. Tshigwadani tshavho, kha vha haseledze:

1. Mbekanyamushumo ya Mbalo i engedza mini kha magudiswa a TSHIPHOKHALI?

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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?

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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.



Kha vha sedze liṅwalo liṅswu kha masiatari a 114–117 a *Nyendedzi ya Divhaipfi*. Magudiswa a ndeme o engedzwa: magaraṭa a tshithoma, u imelela ho fhambanaho, vhulungu ha u vhalela, mutalo wa u fhufha, muthambi wa u anea nomboro, u fanyisa nga zwiga zwa nomboro/ipfinomboro, u kwashekanya na u fhaṭa hafhu khuvhanganyo, u tevhékanya zwiga zwa nomboro, nomboro thevhekano kha nyito dza ḍuvha liṅwe na liṅwe, u tandulula thaidzo nga u amba, u kovhana u eḍana.

## 2. Ndi ḍivhaipfi dza u vhalela dzifhio dzo katelwaho kha Nomboro, Tswayo na Vhushaka kha Kotara ya 1?

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Kha vha sedze liṅwalo liṅswu kha masiatari a 114–115 a *Nyendedzi ya Divhaipfi*: u livhanyisa tshithu na tshinwe, u anganyela, u fanyisa, u imelela ho fhambanaho, u vhalela u ya phanḍa 1–10, u vhalela u humela murahu 5–1.

### Notsi dza mutshimbidzi

- ◆ Kha vha ṭalutshedze uri nga tshifhinga tsha wekishopo hu sedzeswa kha u thomiwa ha Mbekanyamushumo ya Mbalo na uri vhashelamulenzhe vha fanela u pfesesa ḍivhaipfi ya mbalo vhone vhaṅe u itela uri vha kone u tikedza vhagudi vhavho. Wekishopo iyi i ṅetshedza u pfesesa ha ḍivhaipfi ya ndeme kha Nomboro, Tswayo na Vhushaka.

## Divhaipfi ya ndeme kha Nomboro, Tswayo na Vhushaka (Awara 1¼)

### U vhalela

#### U vhalela ha mutevhetsindo (u vhalela ha mutevhetsindo, nga u dovhola kana nga ṭhoho)

### Notsi dza Mutshimbidzi

- ◆ Kha vha humbele vhashelamulenzhe u ḍikhethekanya vhone vhane nga zwigwada zwiṭuku zwa vhaṭanu vha koneha u wana tshikhala tsho vuleaho ngomu ha lufhera lwa u pfumbudzela. Kha vha rumele vhashelamulenzhe kha **Nyito ya 8** vha vha tendele u ita tshidade, *Thihi, mbili, raru, iṅa, ṭhanu* (*Nyendedzi ya Nyito: Kotara ya 1*, siatari ḷa 197) nga misumbedzo.
- ◆ Zwigwadani zwavho zwiṭuku, vhashelamulenzhe vha sumbedza nga nyito na zwikili zwa u vhalela zwe vha zwi shumisa vha fhedzisa **Nyito ya 8** na ya **9**.
- ◆ Kha vha humbele zwigwada u vhiga murahu nga khaseledzo dzazwo. Kha vha ite mutevhe wa tshikili tshiswa tshinwe na tshinwe tsha u vhalela kha filipitshati.
- ◆ Kha vha vhone uri vhashelamulenzhe vha a pfesesa uri u vhalela ha mutevhetsindo zwi katela u rwela ngomani madzina a nomboro nahone a zwi ambi uri vhana vha a kona u vhalela.
- ◆ Kha vha vhale mafhungo nga u vhalela ha mutevhetsindo afha fhasi.
- ◆ Kha vha haseledze mathemo a tevhelaho: u vhalela ha mutevhetsindo, u vhalela ha mutevhetsindo, u vhalela nga u dovhola na u vhalela nga ṭhoho.
- ◆ PPT: u fana na: bugu, tshidulo, mmbwa, nnḍu.
- ◆ Kha vha ṭalutshedze uri u vhalela nga u tevhékana ha vhagudi ha madzina a nomboro a zwi na vhushaka na luthihi na ḍivhaipfi ya nomboro, sa tsumbo, u fana na: bugu, tshidulo, mmbwa, nnḍu, ... Vhagudi nga zwiṭuku vha thoma u pfesesa uri ipfi liṅwe na liṅwe ḷo ima ḷi ḷoṭhe kha mutevhe na uri ipfi liṅwe na liṅwe ḷi imela nomboro tiwa.

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.

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

U vhalela ha mutevhetsindo hu katela mugudi a tshi rwela ngomani madzina na mutevhe wa u vhalela nomboro, kanzhi kha tshidade kana luimbo.

Kha Gireidi ya T̄ vhagudi vha guda mutevhe wo teaho wa madzina a nomboro vha dovhola thevhekano iyo d̄uvha liñwe na liñwe. Ndivho ya u vhalela n̄tha ndi u itela u thusa vhagudi u pfesesa uri musi ri tshi vhalela n̄tha hu na sete ya thevhekano ya nomboro: u thoma kha thihi, ha d̄a mbili, raru, iña, ngauralongauralo. Mathomoni vhagudi a vha pfesesi tshoṭhe uri madzina a nomboro a amba mini nahone vha nga pfuka nomboro kha mutevhe wa u vhalela. U renda tshidade kana mutevhe wa nomboro nga mulomo zwi amba u dovhola madzina a nomboro u bva muhumbuloni. Na musi vhagudi vha tshi vhalela nga maga a mbili, ṭhanu na fumi vha khou shumisa n̄divho yavho ya mutevhe uyu wa nomboro. U rwela ngomani madzina a nomboro na u a dovhola nga mutevhe wa u vhalela wo teaho a zwi ambi uri vhagudi vha a kona u vhalela. Izwi zwo fhambana na u vhalela u itela u wana uri 'ndi zwingana'.

Kha vha d̄idzudzanye nga zwigwada zwiṭuku zwa vhaṭanu vha wane tshikhala tsho vuleaho ngomu ha lufhera lwa u pfumbudzela u itela nyito i tevhelaho.



### Nyito ya 3

1. Zwigwadani zwavho zwiṭuku, kha vha ite tshidade, *Thihi, mbili, raru, iña, ṭhanu*, nga misumbedzo.

#### **Thihi, mbili, raru, iña, ṭhanu**

Thihi, mbili, raru, iña, ṭhanu

Ndo no vhuya nda fasha khovhe i tshi khou tshila.

'Ndi ngani no i litsha ya ṭuwa?'

Ngauri yo luma munwe wanga.

Thihi, mbili, raru, iña, ṭhanu

Nda mbo fasha tshidula tshi tshilaho.

'No ita mini ngatsho?'

Ndo tshi lumelisa nda tshi vhuedzedza maḍini.

2. Vha humbula uri u shumisa tshidade u fana na itshi ndi n̄dowelo yavhuḍi ya u funza u vhalela kha Gireidi ya T̄? Kha vha ṅee zwiitisi zwa phindulo dzavho.

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Kha vha sedze masiaṭari a 77 na 197 a *Nyendedzi ya Nyito: Kotara ya 1* u itela itshi tshidade.



## Activity 4

In the same small groups, answer these questions:

1. What would learners learn by saying this rhyme?

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

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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).



## Nyito ya 4

Nga zwigwada zwiṭuku zwenezwiḷa, kha vha fhindule mbudziso idzi:

1. Vhagudi vha ḍo guda mini nga u ita itshi tshidade?

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2. Vhagudi vha guda mini musi vha tshi dovhola mutevhe wa nomboro nga mutevhe wa u vhalela wone?

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Kha vha vhalele nga nthihinthihi nga mutevhe wone.  
U tevhekana ha u vhalela nomboro.  
Maipfinomboro o teaho.  
Kha vha ṭalukanye maipfinomboro.  
Zwi thusa u guda nga mbilu u tevhekana ha mutevhe wa u vhalela.

### U vhalela zwithu (u vhalela hu vhambedzaho)

#### Notsi dza mutshimbidzi

- ◆ Kha vha sumbedze uri zwithu zwi vhalelwa hani vha tshi shumisa u livhanyisa tshithu nga tshithu.
- ◆ Kha vha humbele vhashelamulenzhe u dzhia zwithu zwa u vhalela ngazwo zwi ḍadzaho zwanḍa zwi vhili u bva kha *Khithi ya Zwishumiswa* ngomu ha tshidongo tshi re nṭha ha ṭafula yavho vha zwi vhee phanḍa havho. Kha vha vha humbele u bula uri ndi thulwi ifhio i re na zwithu zwa u vhalela ngazwo zwinzhi/zwiṭuku. Kha vha vhudzise vhashelamulenzhe uri vha nga wana hani izwi vha songo vhalela. Kha vha vha ṭuṭuwedze u vhambedza zwithu kha tshigwada tshinwe na tshinwe nga mutevhe wa tshithu nga tshithu u itela u amba uri ndi tshigwada tshifhio tshi re na zwinzhi/zwiṭuku.
- ◆ Kha vha humbele vhashelamulenzhe u vhalela zwithu zwi re tshigwadani tshinwe na tshinwe u itela u wana uri ndi tshifhio tshi re na zwinzhi/zwiṭukusa.
- ◆ Kha vha vhudzise vhashelamulenzhe uri ho shumiswa ḍivhaipfi ifhio, sa tsumbo, u vhalela, thihi, mbili, raru ..., ndi zwingana, zwinzhi, zwiṭukusa, tshigwada.
- ◆ Kha vha vhale mafhungo nga u vhalela zwithu (u vhalela hu vhambedzaho) afho fhasi.
- ◆ Kha vha vhone uri vhashelamulenzhe vha a pfesesa phambano vhukati ha u vhalela ha mutevhetsindo na u vhalela zwithu:
  - **U vhalela ha mutevhetsindo** zwi katela u guda nga mbilu na u tevhekanya maipfinomboro.
  - **U vhalela zwithu** zwi katela u fanyisa ipfinomboro na tshithu tshinwe na tshinwe tshi no khou vhalelwa na u pfesesa uri nomboro ya u fhedzisela yo bulwaho i imela ṭhanganyelo ya nomboro dzo vhalelwaho (ndi zwingana).

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.

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U vhalela zwithu zwi katela u livhanyisa tshithu nga tshithu. Izwi zwi amba uri tshithu tshiñwe na tshiñwe kana tshiwo tshi no ḑo vhalelwa tshi fanyiswa na ipfinomboro. U vhalela uri 'ndi zwingana', vhagudi vha fanela u zwi limuwa uri tshithu tshiñwe na tshiñwe tshi re kha khuvhanganyo tshi wana ipfinomboro ('thihi, mbili, raru, iḅa ...') na uri ri vhalela tshithu tshiñwe na tshiñwe luthihi fhedzi.

Musi vhagudi vha tshi vho ḑivha u tevhekana ha u vhalela nomboro, vha thoma u pfesesa uri nomboro iñwe na iñwe kha mutevhe wa u vhalela ndi khulwane nga nthihi kha nomboro yo fhiraho nahone ndi ḑhukhu nga nthihi kha nomboro ine ya khou tevhele. Vha:

- ◆ nga vhambedza muhumbuloni nomboro na u vhona uri mbili ndi nthihi u fhira nthihi na uri raru ndi nthihi u fhira mbili.
- ◆ limuwa uri nomboro dzi aluwa nga nthihi tshifhinga tshoḑhe.
- ◆ limuwa uri nomboro iñwe na iñwe i re kha mutevhe wa u vhalela i tou vha nthihi kokotolo u fhira nomboro yo fhiraho.

### **Notsi dza mutshimbidzi**

- ◆ Kha vha ḑalutshedze vhashelamulenzhe uri vhagudi a vha gudi ḑivhaipfi ya nomboro na zwickili zwi thungo. Vha ḑoḑa tshenzhemo dza ḑuvha liñwe na liñwe nga nomboro kha nyimele dzo fhambanaho dzine dza katela u vhalela ha mutevhetsindo, u vhalela zwithu na u imela nomboro nga ndila dzo fhambanaho.
- ◆ Kha vha ombedzele uri vhagudi a vho ngo fanela u ḅwala zwiga zwa nomboro kha Gireidi ya Ṽ. U guda u ḅwala zwiga zwa nomboro zwi fanela u dzhiwa u fana na U bveledzisa u ḅwala. Kha vha sedze kha Nomboro, Tswayo na Vhushaka kha liñwalo la TSHIPHOKHALI na kha masiaḑari a 114-117 a *Nyendedzi ya ḑivhaipfi*.



### **Vidiyo ya 3**

*Nyendedzi ya Nyito: Kotara ya 1, Vhege ya 2, Nyito yo rangwaho phanḑa nga Mugudisi #2, 3 (siaḑari la 46/47)*

Kha vha ḑalele vidiyo ya vhagudi vha tshi khou vhalela khuvhanganyo ya zwithu. Iyi ndi nyito yo rangwaho phanḑa nga mugudisi. Kha vha dzhiele nzhele uri mugudisi u khou lavhelesa hani mugudi muñwe na muñwe na u vhudzisa mbudziso u itela u vha ḑuḑuwedza u kovhana mihumbulo yavho.

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## 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?

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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 tall 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*.



## U imela nomboro

### Notsi dza mutshimbidi

- ◆ Kha vha ri kha vhashelamulenzhe: *Ntsumbedzeni thanu*.
- ◆ Vhashelamulenzhe nga hu konadzeaho vha do imisa minwe mitanu. Kha vha talutshedze uri divhaipfi kana muhumbulo wa nomboro u thohoni dzashu na uri a ri koni u vhona nomboro. A ri dzi vhoni, fhedzi ri nga dzi imela nga ndila dzo fhambanaho, sa tsumbo, u shumisa minwe, zwithu zwa u vhalela ngazwo, u vhandi zwanḁa, makhandela a maḁuvha a mabebo. Ri imela nomboro u sumbedza uri 'ndi zwingana'.
- ◆ Kha vha humbele vhashelamulenzhe u humbula nga ndila dzo fhambanaho dza u imela nomboro nahone vha vha humbele u fhedzisa **Nyito ya 10** muḁwe na muḁwe e eḁhe. Vha koneha u humbela vhashelamulenzhe uri vha kovhane mihumbulo yavho.
- ◆ Kha vha shumise mafhungo a re afho fhasi u ita manweledzo a uri vhagudi vha thomisa hani u imela nomboro.



### Nyito ya 5

Ndi ndila nngana dzo fhambanaho dzine vha nga dzi wana dza u imela nomboro 5?

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Vhagudi vha thoma u imela nomboro nga u shumisa minwe yavho, vha konaha nga zwituku u thoma u shumisa dziḁwe ngona, u fana na zwithu, nyolo, zwifanyiso kana tswayo. Vhagudi vha bvela phanḁa:

- ◆ u bva kha u shumisa zwithu zwone zwine (u ima vhudzuloni ha) nomboro, sa tsumbo, zwickavhavhe, maḁegere, dzipenisela, maḁari
- ◆ u ya kha u shumisa zwifanyiso kana nyolo u imela zwithu, sa tsumbo, nyolo ya tshikavhavhe, muthu, moḁoro
- ◆ u ya kha u shumisa zwithu zwa u vhalela ngazwo u imela zwithu kana zwifanyiso, sa tsumbo, disiki dza puḁasiḁiki u sumbedza tshivhalo tsha zwickavhavhe
- ◆ u ya kha u shumisa zwiga u imela zwithu na zwifanyiso, sa tsumbozwitendeledzi zwithoma, zwitanda sa zwiga, mibvumo ya u vhandi zwanḁa, u lila ha murumba, urwisa milenzhe fhasi
- ◆ u ya kha u shumisa zwiga zwa nomboro na ipfinomboro, sa tsumbo, '2' kana 'mbili'.

### Notsi dza mutshimbidi

- ◆ PPT: Kha vha talutshedze uri Mbekanyamushumo ya Mbalo i shumisa maele a u funza nomboro nthihi nga tshifhinga tshithihi nahone i tevhele nḁowelo yeneyo i fanaho kha nomboro iḁwe na iḁwe yo funzwaho. Kha vha ite manweledzo a mafhungo a re afho fhasi u itela u netshedza u gavhela nga u pfufhifhadza ha nḁowelo.
- ◆ Kha vha anetshele *Tshitori tsha nomboro ya 1* kha siaḁari la 197 la *Nyendedzi ya Nyito: 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.

- ◆ Kha vha anetshele hafhu tshiṭori, nga itshi tshifhinga vha tshi katela vhashelamulenzhe kha u ita ḽitambwa nga tshiṭori zwenezwi vha tshi khou tshi anetshele, sa tsumbo, nga u tshimbila sa dzindḽou, vha tshi pennda nomboro 1 kha ṭhanga ya nnḽu, vha tshi nukhedza dzuvha ḽithihi, vha tshi fhufhafufha sa tshiṇoni tshithihi.
- ◆ Kha vha sumbedze u imela nomboro ho fhambanaho nga u ṭana themphuleithi ya nnḽu kha luvhondo lwa lufhera lwa u pfumbudzela na u anetshele hafhu *tshiṭori tsha Nomboro ya 1*. Kha vha kaludze ‘thihi’ tshifhinga tshiṇwe na tshiṇwe i tshi bvelela tshiṭorini, sa tsumbo, tshiṇoni tshithihi, muri muthihi, bannga nthihi, dzuvha ḽithihi, gole ḽithihi, muṇango muthihi, bele ya muṇango nthihi. Kha vha vhee tshati ya magaraṭa a luvhondoni a nomboro 1 kha themphuleithi ya nnḽu zwenezwi vha tshi khou vvela phanḽa na tshiṭori:
  - phukha (tshifanyiso)
  - tshiga tsha nomboro (1)
  - tshithoma (bele ya muṇango)
  - ipfinomboro (thihi).

Mbekanyamushumo ya Mbalo i shumisa maele ane a ḽivhadza nomboro 0–10 nthihi nga tshifhinga tshithihi na u tevhela nḽowelo i fanaho ya u funza kha nomboro iṇwe na iṇwe.

- ◆ Tshiṭori tshi a anetshelwa nga ha nomboro. Izwi zwi alusa dzangalelo ḽa vhagudi na u ṇetshedza nyimele ya u takadza yo ḽoweleaho ine ya ṭumana na vhtushilo ha vhagudi na madzangalelo avho.
- ◆ Nomboro iṇwe na iṇwe i na mbumbo ya phukha nkene. Tshiṭori tshi shumisaho phukha tshi shumiswa u fhaṭa tshati ya luvhondoni ya mbalo u itela u imela nomboro.
- ◆ U ita sa ḽitambwa tshiṭori zwi ṇetshedza vhagudi zwikhala zwa u fhindula nga nyito dza muvhili (u guda nga u ita na u tshimbidza mivhili yavho).
- ◆ Zwithu zwi a kuvhanganywa u imela nomboro nga nḽila dzo fhambanaho. Zwithu zwi vhewa fhethu ha mbalo.
- ◆ Vhagudi vha fanyisa zwithu na zwifanyiso, magaraṭa a tshithoma, zwiga zwa nomboro na maipfinomboro.
- ◆ *Bugu ya Dziphositara* i ṇetshedza nyimele dza vhtushilo ha vhukuma u itela u ṭuṭula khaseledzo na u ṭuṭuwedza u tandulula thaidzo.

Nomboro ‘thihi’ i ḽivhadzwa kha vhege ya vhuvhili ya Kotara ya 1 u itela u ḽivhadza vhagudi nga nḽowelo. Nḽowelo yeneyo nthihi i shumiswa zwenezwi nomboro iṇwe na iṇwe ntswa i tshi ḽivhadzwa, hu tshi engedzwa iṇwe nthihi kha nomboro ye vhagudi vha guda murahu.

Phanḽa ha musi vha tshi fhedzisa nyito i tevhelaho, kha vha vhuvhane na mutshimbidzi zwenezwi a tshi anetshele tshiṭori tsha nomboro ya 1 na u fhaṭa tshati ya luvhondoni ya mbalo a tshi shumisa themphuleithi ya nnḽu na tshati ya magaraṭa a luvhondoni a phukha. Nga murahu ha u thetshesela tshiṭori, kha vha fhedzise Nyito ya 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.



### Activity 6

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

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Picture, dot, number symbol, number word

## Notsi dza mutshimbidzi

- ◆ Nga murahu ha musumbedzo, kha vha humbele vhashelamulenzhe u fhedzisa **Nyito ya 11**.
- ◆ Kha vha tendele vhashelamulenzhe u haseledza mbudziso nga zwigwada zwiṭuku vha koneha u kovha mihumbulo yavho tshigwadani tshihulwane.
- ◆ Kha vha ambe nga ḁivhaipfi yo shumiswaho nga tshifhinga tsha nyito, sa tsumbo, thihi, nomboro, tshiga tsha nomboro, dzina ḁa nomboro, ipfinomboro, ndi zwingana, tshigwada, khuvhanganyo, u vhalela, u fana.



### Nyito ya 6

Ndi ndila dzifhio dzo fhambanaho dze nomboro ya 1 ya imelwa ngadzo tshiṭorini?

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Tshifanyiso, tshithoma, tshiga tsha nomboro, ipfinomboro

# 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.

# Dzulo la 3: U thoma modele wa u funza wa zwigwada zwa vhatanu

Awara 2

Ro no haseledza nga uri hu dzudzanywa hani kilasirumu yavho ya mbalo u itela u funza na u guda Mbalo nga tshifhinga tsho sedzwaho. Tshitenwa itshi tshi ri gavhela uri ri nga pulana hani na u thoma hani Mbekanyamushumo ya Mbalo na u sedzesa kha u lugisela u funza kha Vhege ya 1 na 2 dza Kotara ya 1.

## Manweledzo a Magudiswa a Kotara ya 1 (Vhege ya 1-2)

(Awara 1)

### Notsi dza mutshimbidzi

- ◆ PPT: Tshifhinga tsho sedzwaho tsha Mbalo dza dluvha liinwe na liinwe (*Nyendedzi ya Divhaipfi*, siaṭari la 83, Figara ya 33) na Vhege ya 1 ya Ṭhumetshedzo ya B.
- ◆ Kha vha rumele vhashelamulenzhe kha Vhege ya 1 ya Ṭhumetshedzo ya B: Manweledzo a Magudiswa a Vhege nga Vhege a Kotara ya 1 (Vhege ya 1-2). Kha vha ṭalutshedze uri Manweledzo a Magudiswa a Vhege a nea manweledzo a magudiswa a mbalo a vhege inwe na inwe. Kha vha ṭalutshedze uri muhanga uyu wo bveledzwa na uri magudiswa a *Nyendedzi dza Nyito* o tou ṅwalwa.
- ◆ Kha vha vha nee manweledzo nga mbonalo dzo fhambanaho dza vhege. Kha vha vhale nyito dza kilasi yoṭhe, nyito dzo rangwaho phanda nga mugudisi na nyito dza zwigwada zwiṭuku zwo diimisaho nga zwoṭhe (tshitiṭshi tsha mushumo). Kha vha ri vhashelamulenzhe vha shume nga zwigwada u itela u fhedzisa **Nyito ya 12**.
- ◆ Kha vha sedzese kha tshivhumbeo tsha Manweledzo a Magudiswa a Vhege:
  - Sia la Magudiswa, Thero, Ndivho ntswa, Nḍowedzo
  - Nyito dza kilasi yoṭhe: dzi itwa na vhagudi vhoṭhe, nyito dzo ṭumanywaho na Sia la Magudiswa na Thero, dzi katela nḍowelo ine ya katela zwidade/nyimbo, u vhalela ha mutevhetsindo na u vhalela zwithu.
  - Nyito ya tshigwada tshiṭuku yo rangwaho phanda nga mugudisi: i sedzesa kha divhaipfi ine ya ḍo funzwa, i katela tshigwada tshiṭuku tsha vhagudi vha rathi u ya kha vha malo.
  - Nyito dza tshigwada tshiṭuku tsho diimisaho nga tshoṭhe (tshitiṭshi tsha u shumela): tshi ṅetshedza u ita nḍowedzo na u khwaṭhisedzwa ha divhaipfi ine ya khou divhadzwa kilasini yoṭhe na nyito dzo rangwaho phanda nga mugudisi.
- ◆ Kha vha ṭalutshedze uri Manweledzo a Magudiswa a Vhege a ṅetshedza tshivhumbeo na muhanga wa u pulana tshifhinga tsho sedzwaho tsha Mbalo vhege inwe na inwe.

Ṭhumetshedzo ya B: Manweledzo a Magudiswa a Vhege nga Vhege a Kotara ya 1 (Vhege ya 1-2) a ṅetshedza manweledzo a magudiswa na u nea madzinginywa a u funza na u guda mbalo a vhege inwe na inwe nga mafhungo a tevhelaho:

- ◆ Sia la Magudiswa lo Sedzwaho la ndeme la vhege
- ◆ (dzi)thero dzine dza ḍo kwamiwa
- ◆ Ndivho ntswa na Nḍowedzo yo sedzwaho ya vhege
- ◆ nyito dzo dzinginywaho dza kilasi yoṭhe na zwigwada zwiṭuku (nyito yo rangwaho phanda nga mugudisi na nyito dza zwiṭitshini zwa u shumela) dza vhege.

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.



Kha vha vhale nyito dza kilasi yothe, nyito dzo rangwaho phanda nga mugudisi na nyito dza zwiitshini zwa u shumela kha Thumetshedzo ya B: Manweledzo a Magudiswa a Vhege a Kotara ya 1 (Vhege ya 1-2).



## Nyito ya 7

Kha vha sedze kha Thumetshedzo ya B: Manweledzo a Magudiswa a Vhege nga Vhege a Kotara ya 1 (Vhege ya 1-2). Kha vha fhindule mbudziso.

Mbudziso	Vhege ya 1	Vhege ya 2
Ndi liffho Sia la Magudiswa lo Sedzeswaho la vhege?	Nomboro, Tswayo na Vhushaka	Nomboro, Tswayo na Vhushaka
Ndi divhaipfi dziffho dza ndeme dzine vhagudi vha do guda?	U vhalela ha mutevhetsindo U vhalela zwithu	Zwiga zwa nomboro Ipfinoomboro
Ndi ndivho ntswa ifhio ine ya khou divhadzwa?	U vhalela ha mutevhetsindo 1-5 U vhalela zwithu 1-3 U livhanyisa tshithu nga tshithu U tevhékanya zwiwo	Nomboro ya 1 U tandulula thaidzo kha nyimele dza divha linwe na linwe
Ndi zwikili zwiffho zwine ha khou itwa ndowendowe ngazwo kha Vhege ya 2?		U vhalela ha mutevhetsindo 1-5 U vhalela zwithu 1-3 Divhaipfi u bva kha Vhege ya 1

### Notsi dza mutshimbidzi

- ◆ PPT: Kha vha sedzuluse nga u pfufhidza modele wa u funza nga zwigwada zwa vhatanu na uri nyito dza tshifhinga tsho sedzwaho tsha Mbekanyamushumo ya Mbalo dzi dzudzanywa hani (kilasi yothe, tshigwada tshituku na nyito dza u dinangela).
- ◆ Kha vha humbudze vhashelamulenzhe uri ho sedzeswa divhaipfi/thero nthihi nga tshifhinga tshithihi u bva kha Sia la Magudiswa lithihi.

## Nyendedzi ya Nyito: Kotara ya 1

### Notsi dza mutshimbidzi

- ◆ Kha vha talutshedze uri Nyendedzi ya Nyito: Kotara ya 1 i ntschedza vhagudisi madzinginywa a vhege a u funza mbalo kha Gireidi ya T.
- ◆ PPT: Mbonalo dza Nyendedzi ya Nyito: Kotara ya 1 (Nyendedzi ya Nyito: Kotara ya 1, siafari la 6/7).
- ◆ Kha vha talutshedze uri nyito i tevhelaho i do nea vhashelamulenzhe tshikhala tsha u guda zwinzhi nga Nyendedzi ya Nyito: Kotara ya 1.
- ◆ Kha vha ri vhashelamulenzhe vha shume nga zwigwada zwiituku u fhedzisa Nyito ya 13 vha koneha u kovhana phindulo dzavho na tshigwada tshihulwane.
- ◆ Kha vha ite vhumani vhukati ha Nyendedzi ya Nyito: Kotara ya 1 na Manweledzo a Magudiswa a Vhege.

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.

<b>Race around <i>Activity Guide: Term 1</i></b>	
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.

Nyendedzi dza Nyito dzi netshedza vhagudisi vha Gireidi ya T tshivhumbeo na muhanga nahone dzi netshedza madzinginywa a vhege a u funza na u guda mbalo.

Kha vha sedze kha Vhege ya 1 na 2 kha Nyendedzi ya Nyito: Kotara ya 1 na Manweledzo a Magudiswa a Vhege kha Thumetshedzo ya B. Kha vha fhedzise Nyito ya 13 tshigwadani tshavho.



## Nyito ya 8

1. Kha vha lavhelese kha Nyendedzi ya Nyito: Kotara ya 1 vha engedze mafhungo kha thebulu.

<b>Mbambe u mona na Nyendedzi ya Nyito: Kotara ya 1</b>	
Ndi mini zwi re kha masiatari a 7, 9 na 11?	
Phositara ya 'Milayo ya kilasirumu yashu' i kha siatari lifhio?	
Manweledzo a magudiswa a Kotara ya 1 a kha siatari lifhio?	
Ndi mafhungo afhio a re mathomoni a vhege ntswa inwe na inwe?	
Kha vha wane tshitori tsha muta tsha Mbalo dza Gireidi ya T.	
Ndi luimbo lufhio lu divhadzwaho kha Vhege ya 2?	
Kha vha wane hune nomboro 1 ya divhadzwa hone.	
Kha vha wane nyito ya kilasi yothe ine ya sedzesa kha u vhalela ha mutevhetsindo.	
Kha vha wane nyito yo rangwaho phanda nga mugudisi ine ya sedzesa kha u livhanya tshithu na tshithu.	
Kha vha wane nyito ya tshitshini tsha u shumela ine ya sedzesa kha u khwathisedza divhaipfi ya nomboro '1'.	

2. Kha vha sedze nyito dza kilasi yothe, nyito yo rangwaho phanda nga mugudisi na nyito dza zwiitshini zwa u shumela kha Thumetshedzo ya B. Kha vha wane idzi nyito kha Nyendedzi ya Nyito: Kotara ya 1.



Kha Gireidi ya T u linga a hu fomaḽa nahone ndi u linga hu yaho phanda. Ri fanela u sedza vhagudi ri sa imi divha lothe, ngomu na nda ha kilasirumu.

Mbekanyamushumo ya Mbalo yo dizainiwa u mona na u tshintshana ha zwigwada zwiḽuku vhukati ha vhege nahone mugudisi u sedzesa tshigwada tshithihi nga divha, a tshi ḽalela na u thetshesha zwenezwi vhagudi vha tshi fhedzisa mishumo yo tiwaho. Tshifhinga itshi tshi nea mugudisi tshikhala tsha u sedza nga vhuronwane mugudi muḽwe na muḽwe na u kuvhanganya mafhungo nga mvelaphanda yavho.

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.

Kha vha lavhelese tshibuḽoko tsho swifhadzwaho mafheleloni a nyito yo rangwaho phanḽa nga mugudisi kha Vhege ya 2: '**Kha vha ṽole uri vhagudi vha a kona u**'. Luswayo lwa iṽo lwu ri humbudza uri ri fanela u sedza vhagudi musi vhe kati, nahone ri fanela u thetshesela nga vhuronwane musi vha tshi khou amba na riṽe na musi vha tshi amba na thanga dzavho.

Mugudisi u ita notsi muhumbuloni wawe nga mugudi muṽwe na muṽwe nahone musi vhagudi vho no ṽuwa nga ili ḽuvha, u ṽwala zwe a vhona kha bugu yo tetshelwaho u vhona ine ya vha na tshikhala tsha notsi dza mugudi muṽwe na muṽwe.

## Bugu ya Dziphositara na Khithi ya Zwishumiswa

(Minetse ya 10)

### Notsi dza mutshimbidzi

- ◆ Kha vha ṽalutshedze uri zwishumiswa zwa *Khithi ya Zwishumiswa* zwi ḽo shumiswa nga tshifhinga tsha nyito dzo rangwaho phanḽa nga mugudisi na uri hu na zwishumiswa zwo eḽanaho zwa tshigwada tshiṽuku tsha vhagudi vha rathi u ya kha vha malo. Kha vha humbudze vhashelamulenzhe nga zwi re ngomu ha *Khithi ya Zwishumiswa* na u vha sumbedza zwipiḽa zwi tevhelaho zwa zwishumiswa na u haseledza uri tshiṽwe na tshiṽwe tshi ḽo shumiswa hani:
  - u vhalela matheriala: disiki na zwitanda zwa mivhala, zwithu zwa u vhalela ngazwo zwa mitshelo na phukha, zwibuḽoko zwa Yunifikisi
  - daisi
  - vhulungu ha u vhalela
  - magaraṽa a nomboro (zwiga zwa nomboro na maipfinomboro)
  - zwibuḽoko zwa zwidodombedzwa.
- ◆ Kha vha sumbedze vhashelamulenzhe *Bugu ya Dziphositara* vha ṽalutshedze uri hu na nyito ngomu ha *Nyendedzi ya Nyito* dzine dza shumisa Bugu ya Dziphositara u ṽuṽula khaseledzo na u ṽumanya mbalo na nyimele dzo ḽowealeho dza tshikoloni, hayani na tshitshavhani.

*Khithi ya Zwishumiswa* i na zwishumiswa zwo eḽanaho u itela tshigwada tshiṽuku tsha vhagudi vha rathi u ya kha vha malo. Zwishumiswa zwine zwa ḽo shumiswa kha Kotara ya 1 Vhege ya 1 na 2 zwi katela:

- ◆ zwithu zwa u vhalela ngazwo: zwithu zwa u vhalela ngazwo zwa phukha na mitshelo
- ◆ magaraṽa a nomboro: tshiga tsha nomboro (1) na ipfinomboro (thihi).

### Notsi dza mutshimbidzi

- ◆ Kha vha ṽee mushelamulenzhe muṽwe na muṽwe *Khithi ya Zwishumiswa* na *Bugu ya Dziphositara*.

Muṽwe na muṽwe u ḽo wana *Khithi ya Zwishumiswa* na *Bugu ya Dziphositara*.

Kha vha sedze masiaṽari a 6–17 a *Nyendedzi ya Nyito: Kotara ya 1* u itela u vhala nga zwishumiswa zwa kiḽasini na u dzudzanya vhupo ha u guda mbalo.

## 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.

**Notsi dza mutshimbidzi**

- ◆ **Ngudo dzo gudwaho:** Kha vha humbele vhashelamulenzhe u humbula nga zwe vha guda nga tshifhinga tsha wekishopo nahone vha fhedzise **Nyito ya 14** muṅwe na muṅwe e eṅhe.
- ◆ **Mushumo wa u ṭuwa nawo tshikoloni:** Kha vha vhale mushumo uyu. Kha vha vhudzise arali hu na zwiṅwe zwi sa pfali zwine zwa ṭoda u ṭalutshedzwa hafhu.
- ◆ **U linga:** Kha vha phakhele khophi dza Fomo ya u Linga ya Wekishopo vha ri vhashelamulenzhe vha ḡadze idzo fomo.
- ◆ **Wekishopo i tevhelaho:** Kha vha humbele vhashelamulenzhe u ḡa na *Bugu ya Dziphositara, Nyendedzi ya Divhaipfi na Nyendedzi ya Nyito: Kotara ya 1* kha wekishopo idaho. Kha vha ṅee maḡuvha a wekishopo i tevhelaho.
- ◆ **Redzhisitara:** Kha vha humbudze vhashelamulenzhe vhoṅhe u vhona uri vho saina redzhisitara.
- ◆ Kha vha vale wekishopo.



**Nyito ya 9**

**Ngudo dzo gudwaho:** Kha vha humbule nga zwe vha guda nga tshifhinga tsha wekishopo vha fhedzise thebuḷu.

Zwithu zwine ndi a zwi ita zwi ntshumelaho zwavhuḡi	Mihumbulo miswa ine nda tama u i lingedza



**Mushumo wa u ṭuwa nawo tshikoloni**

1. Kha vha vhale masiatari a *Nyendedzi ya Divhaipfi* e a buliwa nga tshifhinga tsha wekishopo iyi.
2. Kha vha shumise *Nyendedzi ya Nyito: Kotara ya 1* u pulana na u thoma Vhege ya 1–2 dza Mbekanyamushumo ya Mbalo.
3. Kha vha sumbedze uri milayo ya nyendedzi ya Mbekanyamushumo ya Mbalo yo thusa hani u funza na u guda ngomu kilasini yavho.
4. Kha vha dzudzanye fhethu ha mbalo. Kha vha dzhie tshinepe tshaho vha ḡe natsho kha wekishopo i tevhelaho.



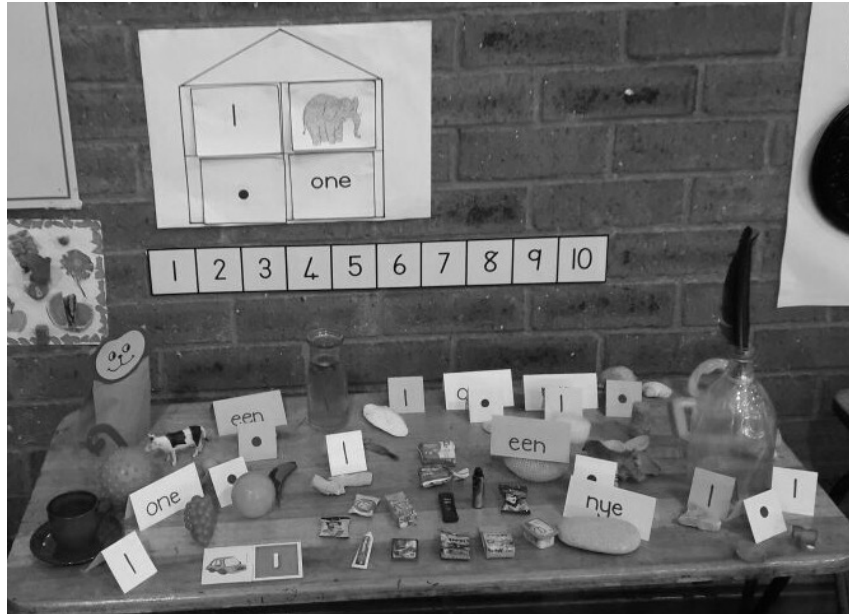
**Bring the following to the next workshop:**

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

**Evaluation**

Complete the Evaluation Form.





**Kha vha ɔe na zwi tevhelaho kha wekishopo i tevhelaho:**

- ◆ *Bugu ya Dzipositara*
- ◆ *Nyendedzi ya Divhaipfi*
- ◆ *Nyendedzi ya Nyito: Kotara ya 1.*

**U linga**

Kha vha ɔadze Fomo ya u Linga.

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

### Term 1: Activity Plan

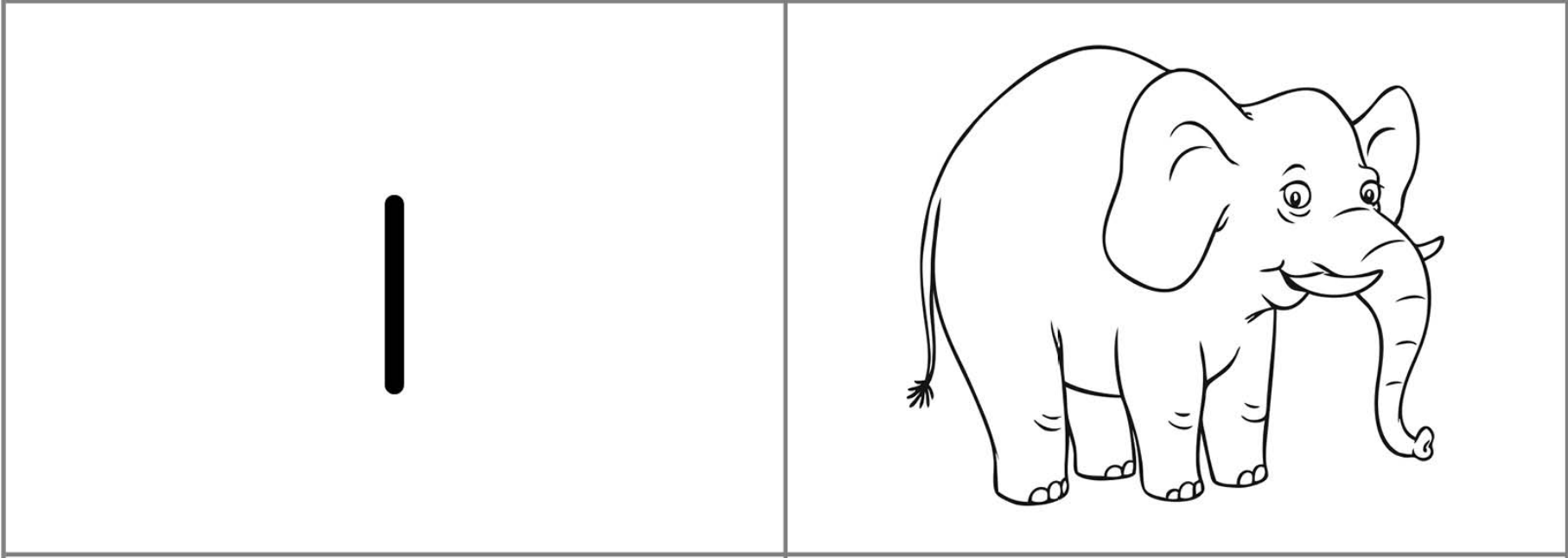
Week 1				
<b>CONTENT AREA: NUMBERS, OPERATIONS AND RELATIONSHIPS</b>				
<b>TOPIC: Oral counting and counting objects</b>				
<b>INTRODUCE NEW KNOWLEDGE:</b> Oral counting 1–5, counting objects 1–3, one-to-one correspondence, sequencing daily programme				
Whole class activities		Teacher-guided activity	Workstation activities	
<b>Day 1</b>	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.	<b>Activity 1</b>	Sorting animal and fruit counters by colour (from the <i>Resource Kit</i> ).
<b>Day 2</b>	Helper's chart, rhyme, <i>Grade R Maths family story</i> .		<b>Activity 2</b>	Playdough or clay modelling.
<b>Day 3</b>	Helper's chart, Tidy-up chart, rhyme, oral counting and the <i>Grade R Maths family story</i> .		<b>Activity 3</b>	Draw a picture.
<b>Day 4</b>	Rhyme, oral counting, counting objects, sequencing daily events, bowls.		<b>Activity 4</b>	Six-piece puzzle.
<b>Day 5</b>	Rhyme, oral counting, learners' symbols.		<b>Activity 5</b>	Building blocks.
Week 2				
<b>CONTENT AREA: NUMBERS, OPERATIONS AND RELATIONSHIPS</b>				
<b>TOPIC: Number symbols and number words</b>				
<b>INTRODUCE NEW KNOWLEDGE:</b> Introduce number 1, solving problems in everyday contexts (rhymes and posters)				
<b>PRACTISE:</b> Oral counting 1–5, counting objects 1–3, vocabulary from previous week				
Whole class activities		Teacher-guided activity	Workstation activities	
<b>Day 1</b>	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.	<b>Activity 1</b>	Matching counters to dots using egg boxes.
<b>Day 2</b>	Song, oral counting, frieze for number 1, body games.		<b>Activity 2</b>	Make one playdough object and draw it.
<b>Day 3</b>	Song, oral counting, counting objects, reinforce number 1, look for 1 object.		<b>Activity 3</b>	'One' template using playdough.
<b>Day 4</b>	Rhyme, oral counting, problem solving – poster story.		<b>Activity 4</b>	Building blocks.
<b>Day 5</b>	Rhyme, oral counting, counting objects in the poster, solving problems.			

**THUMETSHEDZO YA B: MANWELEDZO A MAGUDISWA A VHEGE NGA VHEGE A KOTARA YA 1 (VHEGE YA 1-2)**

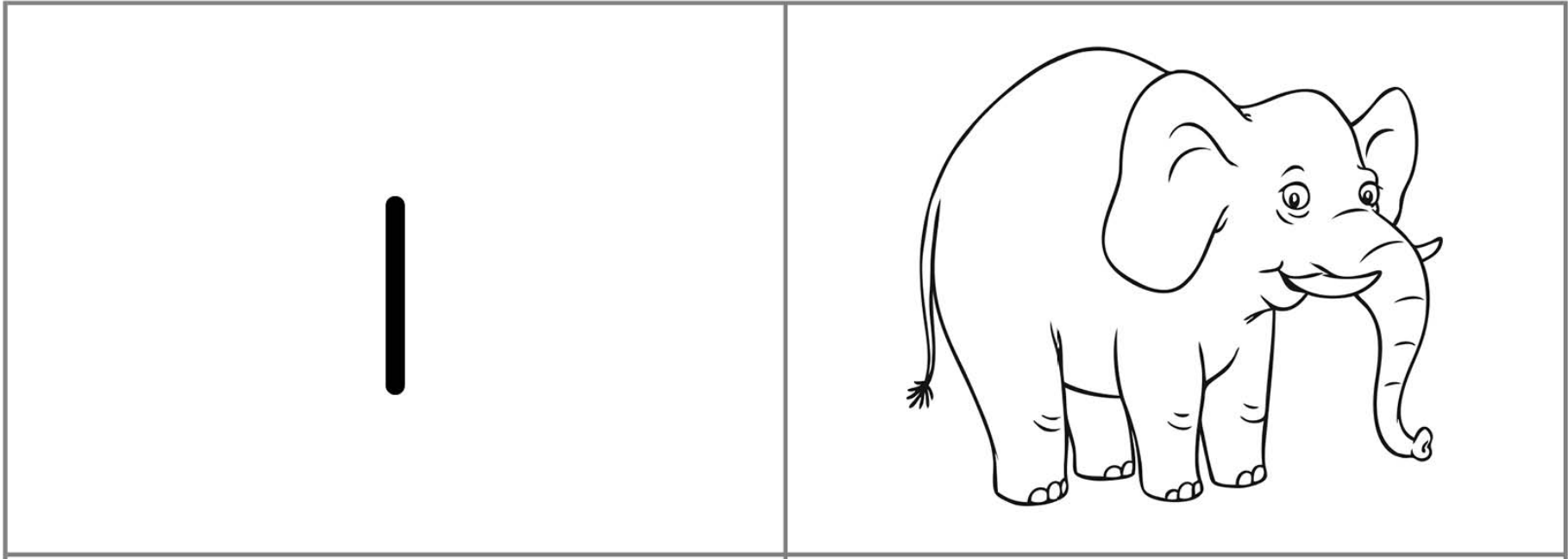
**Kotara ya 1: Pulane ya Nyito**

Vhege ya 1				
<b>SIA LA MAGUDISWA: NOMBORO, TSWAYO NA VHUSHAKA</b>				
<b>THERO: U vhalela ha mutevhetsindo na u vhalela zwithu</b>				
<b>KHA VHA DIVHADZE NDIVHO NTSWA:</b> U vhalela ha mutevhetsindo 1-5, u vhalela zwithu 1-3, u livhanyisa tshithu nga tshithu, u tevhékanya mbekanyamushumo ya ðuvha liñwe na liñwe				
<b>Nyito dza kiłasi yothe</b>		<b>Nyito dzo rangwaho phanda nga mugudisi</b>		<b>Nyito dza zwiłishini zwa u shumela</b>
<b>Ðuvha la 1</b>	Nðowelo, milayo ya kiłasi, zwiga zwa vhagudi na mbekanyamushumo ya ðuvha liñwe na liñwe.	A hu na nyito dza zwigwada zwiłuku dzo rangwaho phanda nga mugudisi kha vhege ya u thoma u itela u tendela mugudisi u monamona vhukati ha zwiłitshini zwa u shumela zwothe zwiłanu: u gaida, u thusa na u ðuıuwedza vhagudi.		<b>Nyito ya 1</b>  U khethekanya zwithu zwa u vhalela ngazwo zwa phukha na mitsheho nga muvhala (u bva kha <i>Khithi ya Zwishumiswa</i> ).  <b>Nyito ya 2</b> Suko la u tambisa kana vumba. <b>Nyito ya 3</b> Olani tshifanyiso. <b>Nyito ya 4</b> Phazili ya zwiłiıa zwa rathi. <b>Nyito ya 5</b> Zwiıuıoko zwa u fhaıa.
<b>Ðuvha la 2</b>	Tshati ya muthusi, tshidade, <i>Tshiıori tsha muıa tsha Mbalo dza Gireidi ya T.</i>	Vhañwe vhagudi vha nga vha vha sa athu vhona kana u shumisa tshishumiswa, zwenezwo mugudisi u ðo fanela u sumbedzela na u tikedza u linga havho ha u thoma.		
<b>Ðuvha la 3</b>	Tshati ya muthusi, Tshati ya u kunakisa, tshidade, u vhalela ha mutevhetsindo na <i>Tshiıori tsha muıa tsha Mbalo dza Gireidi ya T.</i>			
<b>Ðuvha la 4</b>	Tshidade, u vhalela ha mutevhetsindo, u vhalela zwithu, u tevhékanya zwiwo zwa ðuvha liñwe na liñwe, zwidongo.			
<b>Ðuvha la 5</b>	Tshidade, u vhalela ha mutevhetsindo, zwiga zwa vhagudi.			
Vhege ya 2				
<b>SIA LA MAGUDISWA: NOMBORO, TSWAYO NA VHUSHAKA</b>				
<b>THERO: Zwiga zwa nomboro na ipfinomboro</b>				
<b>KHA VHA DIVHADZE NDIVHO NTSWA:</b> Kha vha ðivhadze nomboro 1, u tandulula thaidzo kha nyimele dza ðuvha liñwe na liñwe (zwidade na dziphositara)				
<b>U ITA NÐOWEDZO:</b> U vhalela ha mutevhetsindo 1-5, u vhalela zwithu 1-3, ðivhaiııi u bva kha vhege ya fhiraho				
<b>Nyito dza kiłasi yothe</b>		<b>Nyito dzo rangwaho phanda nga mugudisi</b>		<b>Nyito dza zwiłishini zwa u shumela</b>
<b>Ðuvha la 1</b>	Luimbo, u vhalela ha mutevhetsindo, u ðivhadza nomboro 1 na tshati ya luvhondoni ya mbalo ya nomboro 1, miraıo ya muvhili ('ndi zwingana?' mitambo), u wana tshithu tshithihi.	Kha vha tikedze vhagudi kha nungo dzavho dza u fhedza mishumo. Kha vha vhudzise mbudziso dzi gaidaho na u ðuıuwedza vhagudi u kovhana mihumbulo yavho.		<b>Nyito ya 1</b>  U fanyisa zwithu zwa u vhalela ngazwo na zwithoma vha tshi shumisa mabogisi a makumba.  <b>Nyito ya 2</b> U ita tshithu tshithihi tsha suko la u tambisa na u tshi ola. <b>Nyito ya 3</b> Themphuıeithi ya 'Thihi' vha tshi shumisa suko la u tambisa. <b>Nyito ya 4</b> Zwiıuıoko zwa u fhaıa.
<b>Ðuvha la 2</b>	Luimbo, u vhalela ha mutevhetsindo, tshati ya luvhondoni ya mbalo ya nomboro 1, mitambo ya muvhili.	U vhalela zwithu: u livhanyisa tshithu nga tshitshu.		
<b>Ðuvha la 3</b>	Luimbo, u vhalela ha mutevhetsindo, u vhalela zwithu, u khwaıhisedza nomboro 1, u ıoıa tshithu 1.	U vhekanya zwithu zwa u vhalela ngazwo zwa phukha u ya nga muvhala.		
<b>Ðuvha la 4</b>	Tshidade, u vhalela ha mutevhetsindo, u tandulula thaidzo - tshiıori tsha phositara.	U fanyisa tshiga tsha nomboro 1 na garaıa la ipfi na garaıa la tshithoma na tshithu tsha u vhalela ngatsho tsha phukha.		
<b>Ðuvha la 5</b>	Tshidade, u vhalela ha mutevhetsindo, u vhalela zwithu zwi re kha phositara, u tandulula thaidzo.			

**APPENDIX C: NUMBER 1 FRIEZE CARDS**



ṲHUMETSHEDZO YA C: GARATA ṲA LUVHONDONI ṲA MBALO ṲA NOMBORO 1





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# Workshop 1 Evaluation Form

1. Did the workshop meet your expectations?

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

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

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

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

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# Fomo ya u Linga ya Wekishopo ya 1

1. Wekishopo yo swikelela ndavhelelo dzavho?

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2. Ndi zwifhio zwe vha guda kha iyi wekishopo zwe zwa vha thusesa?

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3. Ho vhuya ha vha na zwiṅwe zwe vha si zwi takalele kana zwe vha konḑelwa u zwi pfesesa?

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4. Vha ḑo shumisa hani zwe vha guda ngomu kiḷasirumuni yavho ya Gireidi ya T?

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5. Vha na zwine vha tama u dzinginya u itela u khwinisa wekishopo dzi tevhelaho?

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