



**GAUTENG PROVINCE**  
EDUCATION  
REPUBLIC OF SOUTH AFRICA

**GGT 2030**  
GROWING GAUTENG TOGETHER

Tshivenda/English

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



**Wekishopo ya 11 • Workshop 11**  
**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**.

The development and production of the training and classroom resources for the Grade R Mathematics and Language Improvement Project were made possible by generous project funding from the **United States Agency for International Development** and the **Zenex Foundation**.

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.

## ACKNOWLEDGEMENTS

Special thanks to:

- The Gauteng Department of Education Curriculum, Teacher Education and Special Education Directorate officials for their contribution to the adaptation of our materials.
- The Western Cape Education Department (WCED) officials and teachers for their contribution to the successful implementation of the Grade R Mathematics Programme (R-Maths) in the Western Cape between 2016 and 2019.
- The R-Maths writing team: SDU staff and consultants.



The Grade R Mathematics Improvement Programme is adapted from *R-Maths*, first published in 2017 by the Schools Development Unit, University of Cape Town. Copyright of *R-Maths* is held by the University of Cape Town.

The Grade R Mathematics Improvement Programme is licensed under a Creative Commons Attribution 4.0 International Licence [Attribution-NonCommercial-ShareAlike].



This licence allows re-users to distribute, remix, adapt, and build upon the material in any medium or format for non-commercial purposes only, and only so long as attribution is given to the creator. If you remix, adapt, or build upon the material, you must license the modified material under identical terms. To view the full conditions for this licence, visit: <https://creativecommons.org/licenses/by-nc-sa/4.0/>

Programme conceptualisation and management: Cally Kuhne and Tholisa Matheza

Translation and publishing project management: Arabella Koopman

Translation: Alugumi Rathumbu

Editing (Tshivenḁa): 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**.

Mveledziso na vhubveledzi ha vhubfumbudzi na zwishumiswa zwa kijasirumu ya Mbalo dza Gireidi ya T na Thandela ya u Khwinisa Dzinyambo zwo konadzea nga ndambedzo ya thandela u bva kha vha **United States Agency for International Development** na vha **Zenex Foundation**.

Mbalo dza Gireidi ya T na Thandela ya u Khwinisa Dzinyambo i langulwa nga vha **JET Education Services** na **Schools Development Unit** ya **UCT** na **Wordworks** sa vhafarakani vha thekhnikhala.

**Schools Development Unit (SDU)** ngei **University of Cape Town (UCT)** ndi mufarakani wa thekhnikhala wa mbalo kha Mbalo dza Gireidi ya T na Thandela ya u Khwinisa Dzinyambo. SDU ndi yuniti ngomu ha School of Education tsha UCT ine ya sedzesa kha mveledziso ya phurofeshinala ya vhagudisi kha Mbalo, Saints, Litheresi/Dzinyambo na Zwikili zwa Vhutshilo u bva kha Gireidi ya T u ya kha Gireidi ya 12. SDU i neshedza ndalukanyo dza mugudisi na khoso pfufhi dzo themedelwaho dza UCT, mushumo wo disendekaho nga tshikolo, mveledziso ya matheriala na thodisiso zwa u tikedza u gudisa na u guda nga nyambo dzothe dza Afrika Tshipembe.

## NDIVHUHO

Ndivhuho dzo khetheaho kha:

- Vhaofisiri vha Khethekanyo ya KharikhuJam, Pfunzo ya Vhagudisi na Pfunzo yo Khetheaho ya Gauteng Department of Education, kha u shela havho mulenzhe kha u shandulela matheriala ashu.
- Vhaofisiri na vhagudisi vha Western Cape Education Department (WCED) kha u shela havho mulenzhe kha u khunyeledza u thomiwa ha Grade R Mathematics Programme (R-Maths) kha la Western Cape vhukati ha 2016 na 2019.
- Tshigwada tsha vhanwani vha R-Maths: vhashumi vha SDU na vhaeletshedzi.



Mbekanyamushumo ya u Khwinifhadza Mbalo dza Gireidi ya T yo shandulelwa u bva kha R-Maths, yo anadadza lwa u thoma nga 2017 nga vha Schools Development Unit, University of Cape Town. Nzivhanyedziso ya R-Maths yo farwa nga vha University of Cape Town.

Mbekanyamushumo ya u Khwinifhadza Mbalo dza Gireidi ya T yo newa laisentsi fhasi ha Creative Commons Attribution 4.0 International Licence [Attribution-NonCommercial-ShareAlike].



Iyi laisentsi i tendela vhashumisi-hafhu uri vha i phadaladze, tanganyise, shandule, na u fhaṭa nṭha ha tshishumiwa tshi re kha tshivhumbeo tshiṅwe na tshiṅwe nahone ndi zwa u sa bindudza, tenda ndivhuwo dza nkedzwa musiki. Arali vha tanganyisa, shandula kana u fhaṭa nṭha ha tshishumiwa, vha tea u neshedza laisentsi kha tshishumiwa tsho khwinifhadzwaho fhasi ha milayo i fanaho. U sedza milayo yo fhelelaho ya laisentsi iyi, kha vha dalele:

<https://creativecommons.org/licenses/by-nc-sa/4.0/>

Mbekanyamushumo ya u sika muhumbulo na ndangulo: Vho Cally Kuhne na Vho Tholisa Matheza

U pindulela na ndangulo ya thandela ya nyanadadzo: Vho Arabella Koopman

Mukonanyi wa u pindulela (Tshivenḑa): Vho Ingrid Brink

U pindulela kha Tshivenḑa: Vho Alugumi Rathumbu

U dzudzanya na u vhalulula nga Tshivenḑa: Vho Ntshengedzeni Edward Mudau

Muoli: Vho Jiggs Snaddon-Wood

# Contents

## Overview

Purpose .....	page 6
Learning outcomes .....	page 6
Workshop content .....	page 6
Preparation .....	page 8
Materials .....	page 8

## Workshop content

Opening and reflection .....	page 10
Session 1: Review of the Maths Content Areas .....	page 16
Session 2: Maths Content Area presentations .....	page 20
Session 3 Maths Content Area presentations (continued) .....	page 22
Session 4: Planning for teaching .....	page 24
Closing activities .....	page 26
Appendix A: Term 4 Weekly Planning Template .....	page 28
Appendix B: Activity 2 Topics .....	page 34
Workshop 11 Evaluation Form .....	page 46

# Zwi re ngomu

## Manweledzo

Ndivho .....	siatari la 7
Mvelelo dza u guda .....	siatari la 7
Magudiswa a wekishopo .....	siatari la 7
Ndugiselo .....	siatari la 9
Matheriala .....	siatari la 9

## Magudiswa a wekishopo

Mvulatswinga na mihumbulo .....	siatari la 11
Dzulo la 1: Tsedzuluso ya Sia la Magudiswa la Mbalo .....	siatari la 17
Dzulo la 2: Mikumedzo ya Sia la Magudiswa la Mbalo .....	siatari la 21
Dzulo la 3: Mikumedzo ya Sia la Magudiswa la Mbalo (u bvela phanda) .....	siatari la 23
Dzulo la 4: U pulanela u funza .....	siatari la 25
Nyito dza u vala .....	siatari la 27

## Thumetshedzo ya A: Themphuleithi ya u Pulana ya Vhege nga Vhege

ya Kotara ya 4 .....	siatari la 29
Thumetshedzo ya B: Thero dza Nyito ya 2 .....	siatari la 35
Fomo ya u Linga ya Wekishopo ya 11 .....	siatari la 47

# Overview

## Purpose

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

The purpose of this workshop is to consolidate the understanding of the Maths content taught in Grade R and to continue assisting teachers to implement the Maths Programme in their classrooms. Participants will have the opportunity to reflect on their implementation of the Maths Programme and discuss their planning, teaching and assessment. They will also consider learner progress, and individual developmental and learning needs. Participants will reflect on appropriate assessment strategies for capturing learner progress. The workshop explores the content for Term 4 Weeks 4–6 and its classroom implementation.

References to the 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.

## Learning outcomes

- ◆ To deepen understanding of Grade R Mathematics content
- ◆ To reflect on classroom implementation of the Maths Programme
- ◆ To identify challenges and find solutions to implementing the Maths Programme
- ◆ To reflect on informal forms of assessment in Grade R
- ◆ To plan the Maths Programme content to be taught in Term 4 Weeks 4–6

## Workshop content

- ◆ Opening and reflection (1 hour)
  - ◆ Session 1: Review of the Maths Content Areas (1 hour)
- TEA
- ◆ Session 2: Maths Content Area presentations (1 hour)
  - ◆ Session 3: Maths Content Area presentations (continued) (1 hour)
- LUNCH
- ◆ Session 4: Planning for teaching (1½ hours)
  - ◆ Closing activities (30 minutes)

# Manweledzo

## Ndivho

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

Ndivho ya wekishopo iyi ndi u pfumbisa kupfesesele kwa magudiswa a Mbalo a funzwaho kha Gireidi ya Ṭ na u bvela phanḁa na u thusa vhagudisi u thoma Mbekanyamushumo ya Mbalo ngomu kiḁasirumuni dzavho. Vhashelamulenzhe vha ḁo vha na tshikhala tsha u amba nga zwe vha lavhelesa. Vha ḁo tandula uri milayo ya nyendedzi ya u funza mbalo kha Gireidi ya Ṭ i fanela u thusa hani u pulana havho, u funza na u linga. Vha ḁo dovha hafhu vha sedza mvelaphanḁa ya vhagudi, na ḁhōḁea dza u guda na mveledziso dza mugudi nga eḁhe. Wekishopo i tandula magudiswa a Kotara ya 4 Vhege ya 4–6 na u thomiwa hao kiḁasini.

U referentsiwa kha Sia ḁa Magudiswa ḁa Mbalo dza Gireidi ya Ṭ zwo dzhiwa kha *Tshitatamennde tsha Phōḁisi tsha Kharikhulamu na u Linga (TSHIPHOKHALI): Mbalo dza Gireidi ya Ṭ (Mvetamveto ya u Fhedzisela)*, 2011, Muhasho wa Pfunzo ya Mutheo, Afrika Tshipembe.

## Mvelelo dza u guda

- ◆ U khwaḁisedza kupfesesele kwa magudiswa a Mbalo dza Gireidi ya Ṭ
- ◆ U amba nga u thomiwa ha Mbekanyamushumo ya Mbalo kiḁasini
- ◆ U topola dzikhaedu na u wana thandululo dza u thoma Mbekanyamushumo ya Mbalo
- ◆ U amba nga nḁila dzi si fomaḁa dza u linga kha Gireidi ya Ṭ
- ◆ U pulana magudiswa a Mbekanyamushumo ya Mbalo ane a ḁo funzwa kha Kotara ya 4 Vhege ya 4–6

## Magudiswa a wekishopo

- ◆ Mvulatswinga na mihumbulo (Awara 1)
- ◆ Dzulo ḁa 1: Tsedzuluso ya Sia ḁa Magudiswa ḁa Mbalo (Awara 1)

### TIE

- ◆ Dzulo ḁa 2: Mikumedzo ya Sia ḁa Magudiswa ḁa Mbalo (Awara 1)
- ◆ Dzulo ḁa 3: Mikumedzo ya Sia ḁa Magudiswa ḁa Mbalo (u bvela phanḁa) (Awara 1)

### TSHISWITULO

- ◆ Dzulo ḁa 4: U pulanela u funza (Awara 1½)
- ◆ Nyito dza u vala (Minetse ya 30)

## Preparation

- ◆ PPT welcome and outcomes
- ◆ Familiarise yourself with all the PowerPoints and videos
- ◆ Read: *Activity Guide: Term 4*, pages 70–119
- ◆ Bring the post box
- ◆ Remind participants to bring their:  
*Concept Guide*  
*Activity Guides* (for Terms 1–4)  
*Poster Book*
- ◆ Prepare the topic sheets from Appendix B

## Materials

- ◆ Flipchart paper, kokis
- ◆ Prestik
- ◆ *A Resource Kit* for each group (Groups will be working with all the apparatus in the *Resource Kit*.)
- ◆ Scissors and glue for each group



## Ndugiselo

- ◆ PPT u tangedza na mvelelo
- ◆ U divha dziPowerPoint na dzividiyo dzothe
- ◆ Kha vha vhale: *Nyendedzi ya Nyito: Kotara ya 4*, masiatari a 70–119
- ◆ Kha vha de na bogisi la poswo
- ◆ Kha vha humbudze vhashelamulenzhe u da na:  
*Nyendedzi ya Divhaipfi*  
*Nyendedzi dza Nyito* (dza Kotara ya 1–4)  
*Bugu ya Dzipositara*
- ◆ U lugisela mashithi a thero u bva kha Thumetshedzo ya B

## Matheriala

- ◆ Bammbiri la filipitshati, dzikhokhi
- ◆ Tshinambatedzi
- ◆ Khithi ya Zwishumiswa ya tshigwada tshiwe na tshiwe (Zwigwada zwi do shuma nga zwishumiswa zwothe zwi re ngomu ha *Khithi ya Zwishumiswa.*)
- ◆ Zwigero na guuu zwa tshigwada tshiwe na tshiwe

# Opening and reflection

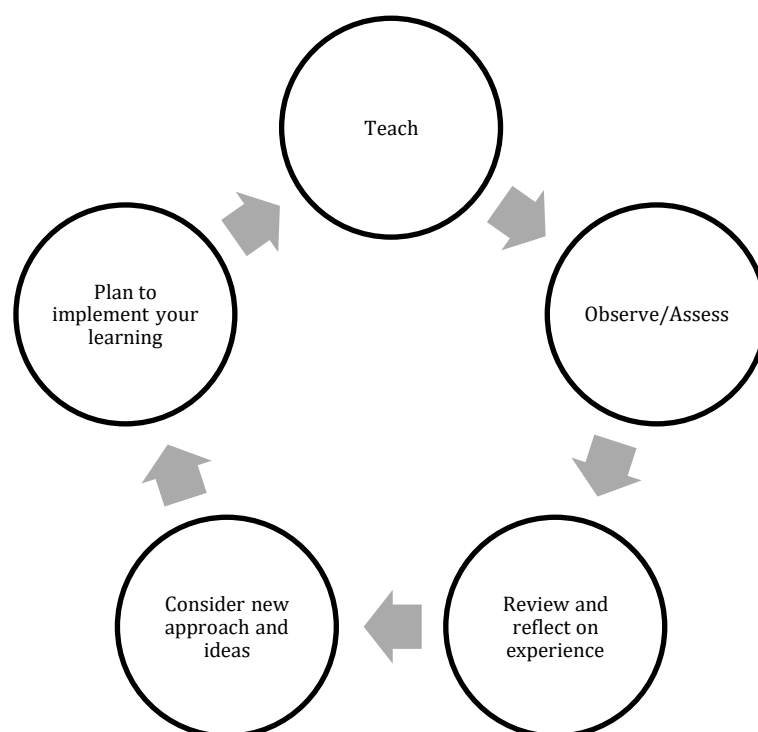
1 hour

When we think about and discuss what worked and how we dealt with any challenges that arose during our teaching, it allows us to recognise our strengths and weaknesses. Reflection on our practice as teachers helps us gain new insights into ourselves and our teaching. Reflective practice allows us to learn from our experiences and encourages us to work with our colleagues to share ideas that improve our teaching.

## Facilitator's notes

- ◆ PPT: Familiarise yourself with the slide pack for the workshop.
- ◆ Discuss the post box comments and feedback from the previous workshop. Remind participants to 'post' any new comments and feedback during the workshop.
- ◆ Lead a discussion on the importance of reflective practice as part of our teaching.

The process of self-reflection is a cycle that needs to be repeated.



*Figure 1: Stages of the reflection cycle*

The process of self-reflection contains the following stages:

- ◆ Teach.
- ◆ Observe/assess.

# Mvulatswinga na mihumbulo

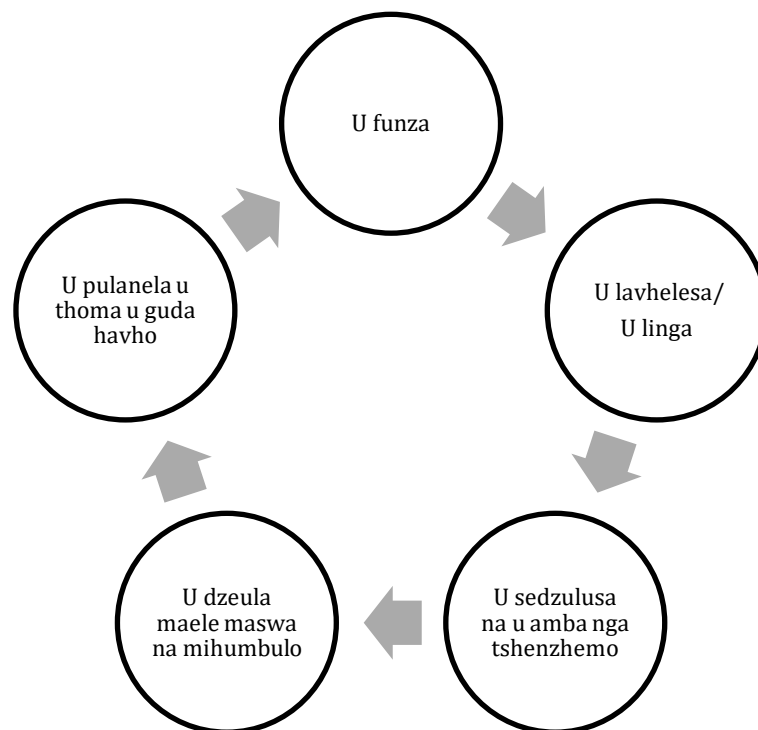
Awara 1

Musi ri tshi humbula nga na u haseledza zwe zwa shuma na uri ro tandulula hani khaedu inwe na inwe ye ra tangana nayo nga tshifhinga tsha u funza, zwi ri tendela u topola hune ra vha na maanda na vhuṭudzeṭudze. U amba nga ndowelo dzashu sa vthagudisi zwi ri thusa u wana ndivho ntswa nga riṅe vhaṅe na u funza hashu. Ndowelo ya u amba nga u funza na u guda i ri tendela u guda u bva kha tshenzhemo dzashu na u ri ṭuṭuwedza u shuma na vhashumisani vhashu u itela u kovhana mihumbulo ine ya khwinisa u funza hashu.

## Notsi dza mutshimbidzi

- ◆ PPT: Kha vha divhe phakhethe ya u silaida ya wekishopo.
- ◆ Kha vha haseledze mahumbulwa a bogisini la poswo na mbigela murahu u bva kha wekishopo yo fhiraho. Kha vha humbudze vhashelamulenzhe u 'posa' mahumbulwa maswa manwe na manwe na mbigela murahu nga tshifhinga tsha wekishopo.
- ◆ Kha vha range phanda khaseledzo ya ndeme ya ndowelo ya u amba nga u funza na u guda sa tshipiḍa tsha u funza hashu.

Maitela a u ṭola ndila ine ra funza ngayo ndi mutevheṭhandu une u fanela u dovhoololwa.



Figara ya 1: Maga a mutevheṭhandu wa u ṭola ndila ine ra funza ngayo

Maitela a u ṭola ndila ine ra funza ngayo a na maga a tevhelaho:

- ◆ U funza.
- ◆ U lavhelesa/u linga.

- ◆ Review and reflect on how effective our teaching was, whether the lesson went well, what challenges emerged and whether the learners benefitted.
- ◆ Use the above information to consider new ways of teaching that could improve the quality of teaching and learning.
- ◆ Plan and implement new ideas and/or strategies in the classroom.

The cycle repeats after each teaching experience.

## Reflection in implementation

### Facilitator's notes

- ◆ Remind participants of the *Take back to school task* from the end of Workshop 10.
- ◆ Refer participants to **Activity 1** and read through the instructions aloud.
- ◆ Give each group a sheet of flipchart paper.
- ◆ Groups will present a summary of their discussion of the reflection cycle.

The *Take back to school task* from Workshop 10, required you to:

- ◆ Plan and implement Term 4 Weeks 1–3 of the Maths Programme.
- ◆ Write comments in the book that you use to keep track of each learner's progress (learner observation book), and to use the '**Check that learners are able to**' observation list during each of the teacher-guided activities to guide your observations and comments.
- ◆ Make notes of what worked well, what did not work well and how you resolved any challenges during your implementation of Term 4 Weeks 1–3.
- ◆ Bring your learner observation book and the notes you made when reflecting on each day's teaching to Workshop 11.



### Activity 1

1. In your small group, consider each of the stages in the reflection cycle and discuss the *Take back to school task* from Workshop 10.
  - ◆ How successful was your planning and teaching in Term 4 Weeks 1–3?
  - ◆ Identify challenges and the strategies you used to resolve them.

---



---



---



---



---



---

- ◆ Kha vha sedzuluse vha ambe nga uri u funza hashu ho vha havhuḁi hani, uri ngudo yo tshimbila zwavhuḁi, ndi khaedu dzifhio dze vha t̄angana nadzo na uri vhagudi vho vhuēlwa naa.
  - ◆ Kha vha shumise mafhungo a re afho n̄tha u sedza n̄dila ntswa dza u funza dzine dzi nga khwinisa khwal̄ithi ya u funza na u guda.
  - ◆ Kha vha pulane vha thome mihumbulo miswa na/kana maano kil̄asini.
- Mutevheṭhandu u a dovholola nga murahu ha tshenzhemo ya u funza iñwe na iñwe.

## U amba nga u thoma

### Notsi dza mutshimbidzi

- ◆ Kha vha humbudze vhashelamulenzhe nga *Mushumo wa u t̄uwa nawo tshikoloni* u bva kha Wekishopo ya 10.
- ◆ Kha vha rumele vhashelamulenzhe kha **Nyito ya 1** vha vhalele ndaela n̄tha.
- ◆ Kha vha n̄ee tshigwada tshiñwe na tshiñwe shithi la bammbiri la fil̄ipitshati.
- ◆ Zwigwada zwi ḁo kumedza manweledzo a khaseledzo yazwo ya mutevheṭhandu wa u t̄ola n̄dila ine ra funza ngayo.

*Mushumo wa u t̄uwa nawo tshikoloni* u bva kha Wekishopo ya 10, u t̄oḁa vha tshi:

- ◆ Pulana na u thoma Kotara ya 4 Vhege ya 1–3 dza Mbekanyamushumo ya Mbalo.
- ◆ N̄wale mahumbulwa buguni ine vha i shumisa u itela u sedza mvelaphanda ya mugudi muñwe na muñwe (bugu ya u lavhelesa vhagudi), na u shumisa mutevhe wa u lavhelesa wa **'Kha vha t̄ole uri vhagudi vha a kona u'** nga tshifhinga tsha nyito dzo rangwaho phanda nga mugudisi dziñwe na dziñwe u itela u endedza u lavhelesa havho na mahumbulwa.
- ◆ Ita notsi dza zwe zwa shuma zwavhuḁi, zwe zwa si shume zwavhuḁi na uri vho tandulula hani dzikhaedu dziñwe na dziñwe nga tshifhinga tsha u thoma havho Kotara ya 4 Vhege ya 1–3.
- ◆ ḁa na bugu ya u lavhelesa vhagudi na notsi dze vha ita musi vha tshi khou amba nga u funza ha ḁuvha liñwe na liñwe kha Wekishopo ya 11.



### Nyito ya 1

1. Tshigadani tshavho tshiṭuku, kha vha sedze liga liñwe na liñwe li re kha mutevheṭhandu wa u t̄ola n̄dila ine ra funza ngayo vha haseledze *Mushumo wa u t̄uwa nawo tshikoloni* u bva kha Wekishopo ya 10.
  - ◆ U pulana na u funza havho kha Kotara ya 4 Vhege ya 1–3 ho vha na mvela phanda hani?
  - ◆ Kha vha topole dzikhaedu na maano e vha shumisa u dzi tandulula.

---



---



---



---



---

- ◆ Have you been able to observe each learner and record his/her progress? Give reasons and examples to support your answer.

---

---

2. Imagine that you have been asked by your Department Head to talk to the Grade R teachers at a cluster meeting.
  - ◆ Refer to the reflection cycle in Figure 1.
  - ◆ Draw the cycle on flipchart paper and add notes next to each stage of the cycle.
  - ◆ Your group will present the main points of your discussion to the whole group.

**Facilitator's notes**  
◆ Wrap up the discussion and address any questions raised.

 **Video 1**

Watch the video of a group of teachers reflecting on their teaching and listen to their opinions about reflective practice.

1. Do you agree with their ideas about reflective practice? Explain your answer.

---

---

2. Does reflective practice increase your understanding of your teaching? Explain your answer.

---

---

3. Does reflective practice increase your understanding of learning in your class? Explain your answer.

---

---

4. Does reflective practice increase your engagement with colleagues? Explain your answer.

---

---

**Facilitator's notes**  
◆ Invite comments and responses to the video.

- ◆ Vho vhuya vha kona u lavhelesa mugudi muñwe na muñwe vha rekhoda mvelaphanda yawe? Kha vha ñee zwiitisi na tsumbo u tikedza phindulo yavho.
- 
- 

2. Kha vha humbule vho humbelwa nga T̂hoho ya Muhasho wavho u amba na vhagudisi vha Gireidi ya T̂ mutanganoni wa zwikolo zwa tshitiiriki.
  - ◆ Kha vha sedze mutevheṭhandu wa u tola ndila ine ra funza ngayo kha Figara ya 1.
  - ◆ Kha vha ole mutevheṭhandu kha bammberi la filipitshati vha engedze nga notsi tsini na liga linwe na linwe la mutevheṭhandu.
  - ◆ Tshigwada tshavho tshi do kumedza mbuno khulwane dza khaseledzo yavho kha tshigwada tshihulwane.

### **Notsi dza mutshimbidzi**

- ◆ Kha vha pendele khaseledzo vha fhindule mbudziso dziñwe na dziñwe dzo t̂ahiswaho.



### **Vidiyo ya 1**

Kha vha t̂alele vidiyo ya tshigwada tsha vhagudisi vha tshi khou amba nga u funza havho vha thetshesele mihumbulo yavho nga ndowelo ya u amba nga u funza na u guda.

1. Vha a tendelana na mihumbulo yavho nga ndowelo ya u amba nga u funza na u guda? Kha vha t̂alutshedze phindulo yavho.
- 
- 

2. Ndowelo ya u amba nga u funza na u guda i a engedza kupfesesele kwavho kwa kufunzele kwavho? Kha vha t̂alutshedze phindulo yavho.
- 
- 

3. Ndowelo ya u amba nga u funza na u guda i a engedza kupfesesele kwavho kwa kugudele ngomu kilasini yavho? Kha vha t̂alutshedze phindulo yavho.
- 
- 

4. Ndowelo ya u amba nga u funza na u guda i a engedza nyambedzano yavho na vhashumisani? Kha vha t̂alutshedze phindulo yavho.
- 
- 

### **Notsi dza mutshimbidzi**

- ◆ Kha vha vhudzise mahumbulwa na phindulo zwa vidiyo.

# Session 1: Review of the Maths Content Areas

1 hour

## Facilitator's notes

- ◆ Divide the participants into 9 small groups. Allocate a space for each group to set up a table and wall display.
- ◆ Give each group flipchart paper, kokis, scissors and glue.
- ◆ Give one topic from Appendix B to each small group.
- ◆ Participants complete **Activity 2** in their small groups. Assist groups to ensure that content is accurate and that core concepts and skills are included in their presentation.
- ◆ Each group does a presentation to the whole group.
- ◆ After each presentation, draw the participants' attention to the main content focus. Address any issues that were raised or misconceptions that arose in the presentation.

In Sessions 1, 2 and 3 we will review our understanding and knowledge of the five CAPS Grade R Mathematics Content Areas and related topics. We will also discuss the teaching and approaches that form part of the Maths Programme we have been implementing.



## Activity 2

1. Your group will prepare a presentation on a topic that the facilitator gives you.
  - ◆ You will have access to flipchart paper, kokis, scissors, glue and items from the *Resource Kit*. You will also be allocated a space in which to set up your presentation.
  - ◆ You need to refer to the *Concept Guide* and *Activity Guides* in your presentation.
2. Your presentation needs to include:
  - ◆ an overview of the content and how this is developed in Grade R
  - ◆ resources used to model concepts and represent ideas
  - ◆ appropriate learner activities for consolidating and applying new knowledge
  - ◆ areas of concern when teaching the topic
  - ◆ a table and wall display
  - ◆ examples of how learners would solve problems.
3. Your group will facilitate the discussion and answer questions from the whole group.



# Dzulo la 1: Tsedzuluso ya Sia la Magudiswa la Mbalu

Awara 1

## Notsi dza mutshimbidzi

- ◆ Kha vha khethekanye vhashelamulenzhe vha bve zwigwada zwiṭuku zwa 9. Kha vha avhele tshigwada tshiṅwe na tshiṅwe tshikhala tsha u dzudzanya ṭafula na u ṭana luvhondoni.
- ◆ Kha vha ṅee tshigwada tshiṅwe na tshiṅwe bammbiri la filipitshati, dzikhokhi, tshigero na guḽuu.
- ◆ Kha vha ṅee tshigwada tshiṭuku tshiṅwe na tshiṅwe thero nthihi u bva kha Ṭhumetshedzo ya B.
- ◆ Vhashelamulenzhe vha fhedzisa **Nyito ya 2** zwigwadani zwavho zwiṭuku. Kha vha thuse zwigwada u khwaṭhisedza uri magudiswa o tea na uri ḽivhaipfi na zwikili zwa ndeme zwo katelwa kha mikumedzo yavho.
- ◆ Tshigwada tshiṅwe na tshiṅwe tshi ita mukumedzo kha tshigwada tshihulwane.
- ◆ Nga murahu ha mukumedzo muṅwe na muṅwe, kha vha vhudze vhashelamulenzhe nga zwo sedzeswaho nga magudiswa a ndeme. Kha vha tandulule mafhungo maṅwe na maṅwe o ṭahiswaho kana zwi si zwone zwe zwa pfala kha mukumedzo.

Kha Dzulo la 1, 2 na 3 ri ḽo sedzulusa kupfesesele kwashu na ndivho ya Masia a Magudiswa a Mbalu dza Gireidi ya Ṭ maṭanu a TSHIPHOKHALI na thero dzi tshimbilelanaho nao. Ri ḽo dovha hafhu ra haseledza u funza na maele ane a vhumba tshipiḽa tsha Mbekanyamushumo ya Mbalu ine ra khou thoma.



## Nyito ya 2

1. Tshigwada tshavho tshi ḽo lugisela mukumedzo nga thero ine mutshimbidzi a ḽo vha ṅea.
  - ◆ Vha ḽo vha na bammbiri la filipitshati, dzikhokhi, tshigero, guḽuu na zwithu u bva kha *Khithi ya Zwishumiswa*. Vha ḽo dovha hafhu vha avhelwa tshikhala tshine khatsho vha ḽo dzudzanya mukumedzo wavho.
  - ◆ Vha fanela u sedza kha *Nyendedzi ya Divhaipfi* na *Nyendedzi dza Nyito* zwi re kha mukumedzo wavho.
2. Mukumedzo wavho u fanela u katela:
  - ◆ manweledzo a magudiswa na uri a bveledzwa hani kha Gireidi ya Ṭ
  - ◆ zwishumiswa zwo shumiswaho u modela ḽivhaipfi na u imela mihumbulo
  - ◆ nyito dzo teaho vhagudi u itela u pfumbisa na u shumisa ndivho ntswa
  - ◆ masia ane a vha thaidzo musi vha tshi khou funza thero
  - ◆ ṭafula na u ṭana luvhondoni
  - ◆ tsumbo dza uri vhagudi vha ḽo tandululisa hani thaidzo.
3. Tshigwada tshavho tshi ḽo tshimbidza khaseledzo na u fhindula mbudziso u bva tshigwadani tshihulwane.





## Session 2: Maths Content Area presentations

1 hour

### Facilitator's notes

- ◆ Each group makes its presentation to the whole group.
- ◆ After each group's presentation, draw participants' attention to the main content focus. Address any issues that were raised or misconceptions that arose in the presentation.

Each group will have 15 minutes to present their topic and respond to questions from the whole group.

## Dzulo la 2: Mikumedzo ya Sia la Magudiswa la Mbalo

Awara 1

### Notsi dza mutshimbidzi

- ◆ Tshigwada tshiñwe na tshiñwe tshi ita mukumedzo watsho kha tshigwada tshihulwane.
- ◆ Nga murahu ha mukumedzo wa tshigwada tshiñwe na tshiñwe, kha vha vhudze vhashelamulenzhe nga magudiswa a ndeme o sedzwaho. Kha vha ambe nga mafhungo manwe na manwe o tshiswaho kana mihumbulo i si yone ye ya pfala kha mukumedzo.

Tshigwada tshiñwe na tshiñwe tshi newa minetse ya 15 u kumedza thero yatsho na u fhindula mbudziso dzi bvaho tshigwadani tshihulwane.

## Session 3: Maths Content Area presentations (continued)

1 hour

### Facilitator's notes

- ◆ Each group makes its presentation to the whole group.
- ◆ After each group's presentation, draw participants' attention to the main content focus. Address any issues that were raised or misconceptions that arose in the presentation.

Each group will have 15 minutes to present their topic and respond to questions from the whole group.

# Dzulo la 3: Mikumedzo ya Sia la Magudiswa la Mbalo (u bvela phanda)

Awara 1

## Notsi dza mutshimbidzi

- ◆ Tshigwada tshiñwe na tshiñwe tshi ita mukumedzo watsho kha tshigwada tshihulwane.
- ◆ Nga murahu ha mukumedzo wa tshigwada tshiñwe na tshiñwe, kha vha vhudze vhashelamulenzhe nga magudiswa a ndeme o sedzwaho. Kha vha ambe nga mafhungo manwe na manwe o tshiswaho kana mihumbulo i si yone ye ya pfala kha mukumedzo.

Tshigwada tshiñwe na tshiñwe tshi n̄ewa minetse ya 15 u kumedza thero yatsho na u fhindula mbudziso dzi bvaho tshigwadani tshihulwane.

## Session 4: Planning for teaching

1½ hours

This workshop session prepares participants for implementing Term 4 Weeks 4–6 and provides an opportunity for small groups to plan ahead. It is important to:

- ◆ address differences in learners' levels of progress
- ◆ support those learners who need additional assistance
- ◆ provide enrichment activities for more advanced learners.

The goal is to ensure that all learners are competent in the Grade R Mathematics content and are well prepared for Grade 1.

### Facilitator's notes

- ◆ Move between the small groups as participants discuss the planning and preparation for teaching Term 4 Weeks 4–6 in **Activity 3**. Assist by making suggestions on overcoming challenges.
- ◆ Each small group plans the three weeks and completes the templates in Appendix A.
- ◆ Lead a whole-group discussion on differentiation and how to manage learners at different levels of competence. Write these ideas on flipchart paper.



### Activity 3

1. In your group, complete the planning templates for Term 4 Weeks 4–6 (Appendix A).
2. Discuss how you will plan for and manage learners who have different levels of competence.

---

---

---

---

---

---



# Dzulo la 4: U pulanela u funza

Awara 1½

Dzulo ili la wekishopo li lugisela vhashelamulenzhe u thoma Kotara ya 4 Vhege ya 4–6 na u nea tshikhala zwigwada zwiṭuku u pulanela phanḁa. Ndi zwa ndeme u:

- ♦ tandulula phambano kha levele dza mvelaphanḁa ya vhagudi
- ♦ tikedza vhaḁa vhagudi vhane vha ṭoḁa thuso ya u engedza
- ♦ nea nyito dza u pfumisa ndivho kha vhagudi vhane vha kona.

Ndivho ndi u vhona uri vhagudi vhoṭhe vha a kona magudiswa a Mbalo dza Gireidi ya Ṭ nahone vho lugiselwa zwavhuḁi u ya kha Gireidi ya 1.

## Notsi dza mutshimbidzi

- ♦ Kha vha tshimbile vhukati ha zwigwada zwiṭuku zwenezwi vhashelamulenzhe vha tshi khou haseledza u pulana na u lugisela u funza Kotara ya 4 Vhege ya 4–6 kha **Nyito ya 3**. Kha vha vha thuse nga u dzinginya nga u kunda dzikhaedu.
- ♦ Tshigwada tshiṭuku tshiṅwe na tshiṅwe tshi pulanela vhege tharu na u fhedzisa themphuḁeithi kha Ṭhumetshedzo ya A.
- ♦ Kha vha range phanḁa khaseledzo ya tshigwada tshihulwane nga u fhambanyisa na uri vha langa hani vhagudi vha re kha levele dza vhukoni ho fhambanaho. Kha vha ṅwale mihumbulo iyi kha bambiri la filipitshati.



### Nyito ya 3

1. Tshigwadani tshavho, kha vha fhedzise themphuḁeithi dza u pulanela Kotara ya 4 Vhege ya 4–6 (Ṭhumetshedzo ya A).
2. Kha vha haseledze uri vha ḁo pulanela na u langa hani vhagudi vha re na levele dza vhukoni ho fhambanaho.

---

---

---

---

---

---

# Closing activities

30 minutes

## Facilitator's notes

### Workshop reflection:

- ◆ Ask participants to stand in two circles, one inside the other. Participants in the outer circle should stand facing inwards and participants in the inner circle should stand facing outwards.
- ◆ Participants take a few minutes to reflect on and discuss the workshop with the person opposite them. Invite them to mention highlights and also any questions they may have that have not yet been answered.
- ◆ Ask the inner circle to move one person to the right and to repeat the discussion. Repeat this a few times.
- ◆ Ask participants to volunteer something relevant that another participant mentioned to them.
- ◆ Encourage participants to add any comments and feedback not shared during the discussion to the post box.

## Facilitator's notes

- ◆ **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:** Give dates for the next workshop and close the workshop.



### Take back to school task

1. Invite other Grade R teachers at your school (or from another school) to join you in planning Term 4 Weeks 4–6 of the Maths Programme.
2. Implement these three weeks and use the reflection cycle (Figure 1) to review your experience. Write your reflections in a journal and bring it to the next workshop.

## Evaluation

Complete the Evaluation Form.

## Notsi dza mutshimbidzi

### U amba nga wekishopo:

- ◆ Kha vha humbele vhashelamulenzhe u ima vho ita zwitendeledzi zwivhili, tshithihi ngomu ha tshiñwe. Vhashelamulenzhe vha tshitendeledzi tsha nnḁa vha fanela u ima vho sedza nga ngomu ngeno vhashelamulenzhe vha tshitendeledzi tsha ngomu vha tshi fanela u ima vho sedza nnḁa.
- ◆ Vhashelamulenzhe vha dzhia minetse i si gathi u amba na u haseledza nga wekishopo na muthu o livhanaho navho. Kha vha vha humbele u amba nga zwipiḁa zwa nḁhesa zwa weikishopo na u vhudzisa mbudziso inwe na inwe ine vha nga vha nayo ine a i athu fhindulwa.
- ◆ Kha vha humbele vha tshitendeledzi tsha ngomu u sudzulusa muthu muthihi u ya kha tshauḁa vha dovhohole khaseledzo. Kha vha dovhohole izwi lu si gathi.
- ◆ Kha vha humbele vhashelamulenzhe u amba nga tshiñwe tshithu tshi tshimbilelanaho na tshe munwe mushelamulenzhe o tshi bula khavho.
- ◆ Kha vha ḁuḁuwedze vhashelamulenzhe u engedza mahumbulwa mañwe na mañwe na mbigela murahu dzine a dzo ngo kovhiwa nga tshifhinga tsha khaseledzo kha bogisi ḁa poswo.

## Notsi dza mutshimbidzi

- ◆ **Mushumo wa u ḁuwa nawo tshikoloni:** Kha vha vhale mushumo uyu. Kha vha vhudzise arali hu na zwiñwe zwi sa pfali zwine zwa ḁoḁa u ḁalutshedzwa.
- ◆ **U linga:** Kha vha phakhele khophi dza Fomo ya u Linga ya Wekishopo vha ri vhashelamulenzhe vha ḁadze idzo fomo.
- ◆ **Wekishopo i tevhelaho:** Kha vha nḁee maḁuvha a wekishopo i tevhelaho vha vale wekishopo.



### Mushumo wa u ḁuwa nawo tshikoloni

1. Kha vha rambe vhañwe vhagudisi vha Gireidi ya ḁ tshikoloni tshavho (kana u bva kha tshiñwe tshikolo) u vha dzhoina kha u pulanela Kotara ya 4 Vhege ya 4–6 dza Mbekanyamushumo ya Mbalo.
2. Kha vha thome vhege idzi tharu vha shumise mutevheḁhandu wa u ḁola nḁila ine ra funza ngayo (Figara ya 1) u ita tsedzuluso ya tshenzhemo yavho. Kha vha ñwale zwe vha amba kha dzhenala vha ḁe nayo kha wekishopo i tevhelaho.

### U linga

Kha vha ḁadze Fomo ya u Linga.

**APPENDIX A: TERM 4 WEEKLY PLANNING TEMPLATE**

**Term 4: Activity Plan: Week \_\_\_\_**

<b>CONTENT AREA:</b>				
<b>TOPIC:</b>				
<b>INTRODUCE NEW KNOWLEDGE:</b>				
<b>PRACTISE:</b>				
<b>Whole class activities</b>		<b>Teacher-guided activity</b>	<b>Workstation activities (independent small group activities)</b>	
<b>Day 1</b>			<b>Activity 1</b>	
<b>Day 2</b>			<b>Activity 2</b>	
<b>Day 3</b>			<b>Activity 3</b>	
<b>Day 4</b>			<b>Activity 4</b>	
<b>Day 5</b>				

**THUMETSHEDZO YA A: THEMPHULEITHI YA U PULANA YA VHEGE NGA VHEGE YA KOTARA YA 4**

**Kotara ya 4: Pulane ya Nyito: Vhege \_\_\_\_**

<b>SIA LA MAGUDISWA:</b>				
<b>THERO:</b>				
<b>KHA VHA DIVHADZE NDIVHO NTSWA:</b>				
<b>NDOWEDZO:</b>				
<b>Nyito dza kilasi yothe</b>		<b>Nyito yo rangwaho phanda nga mugudisi</b>	<b>Nyito dza tshilitshini tsha u shumela (nyito dza tshigwada tshituku tsho diimisaho)</b>	
<b>Duvha la 1</b>			<b>Nyito ya 1</b>	
<b>Duvha la 2</b>			<b>Nyito ya 2</b>	
<b>Duvha la 3</b>			<b>Nyito ya 3</b>	
<b>Duvha la 4</b>			<b>Nyito ya 4</b>	
<b>Duvha la 5</b>				

**Term 4: Activity Plan: Week \_\_**

<b>CONTENT AREA:</b>				
<b>TOPIC:</b>				
<b>INTRODUCE NEW KNOWLEDGE:</b>				
<b>PRACTISE:</b>				
<b>Whole class activities</b>		<b>Teacher-guided activity</b>	<b>Workstation activities (independent small group activities)</b>	
<b>Day 1</b>			<b>Activity 1</b>	
<b>Day 2</b>			<b>Activity 2</b>	
<b>Day 3</b>			<b>Activity 3</b>	
<b>Day 4</b>			<b>Activity 4</b>	
<b>Day 5</b>				

**Kotara ya 4: Pulane ya Nyito: Vhege \_\_\_\_**

<b>SIA LA MAGUDISWA:</b>				
<b>THERO:</b>				
<b>KHA VHA DIVHADZE NDIVHO NTSWA:</b>				
<b>NDOWEDZO:</b>				
<b>Nyito dza kilasi yothe</b>		<b>Nyito yo rangwaho phanda nga mugudisi</b>	<b>Nyito dza tshitshini tsha u shumela (nyito dza tshigwada tshituku tsho diimisaho)</b>	
<b>Duvha la 1</b>			<b>Nyito ya 1</b>	
<b>Duvha la 2</b>			<b>Nyito ya 2</b>	
<b>Duvha la 3</b>			<b>Nyito ya 3</b>	
<b>Duvha la 4</b>			<b>Nyito ya 4</b>	
<b>Duvha la 5</b>				

**Term 4: Activity Plan: Week \_\_\_\_**

<b>CONTENT AREA:</b>				
<b>TOPIC:</b>				
<b>INTRODUCE NEW KNOWLEDGE:</b>				
<b>PRACTISE:</b>				
<b>Whole class activities</b>		<b>Teacher-guided activity</b>	<b>Workstation activities (independent small group activities)</b>	
<b>Day 1</b>			<b>Activity 1</b>	
<b>Day 2</b>			<b>Activity 2</b>	
<b>Day 3</b>			<b>Activity 3</b>	
<b>Day 4</b>			<b>Activity 4</b>	
<b>Day 5</b>				



**Kotara ya 4: Pulane ya Nyito: Vhege \_\_\_\_**

<b>SIA LA MAGUDISWA:</b>				
<b>THERO:</b>				
<b>KHA VHA DIVHADZE NDIVHO NTSWA:</b>				
<b>NDOWEDZO:</b>				
<b>Nyito dza kilasi yothe</b>		<b>Nyito yo rangwaho phanda nga mugudisi</b>	<b>Nyito dza tshithshini tsha u shumela (nyito dza tshigwada tshituku tsho diimisaho)</b>	
<b>Duvha la 1</b>			<b>Nyito ya 1</b>	
<b>Duvha la 2</b>			<b>Nyito ya 2</b>	
<b>Duvha la 3</b>			<b>Nyito ya 3</b>	
<b>Duvha la 4</b>			<b>Nyito ya 4</b>	
<b>Duvha la 5</b>				

## APPENDIX B: ACTIVITY 2 TOPICS

### Topic 1: Number concept development and counting (Numbers, Operations and Relationships)

Prepare a presentation that includes:

- ◆ a mapping of the main concepts/skills on flipchart paper
- ◆ how this topic is taught in Grade R
- ◆ a display with concrete objects, pictures and 'examples' of learners' work to support your discussion
- ◆ important points to note about this topic.

You will need to facilitate a discussion and answer questions from the whole group.

#### Points to consider in your presentation:

- ◆ What is number concept?
- ◆ How do children acquire number concept?  
What does counting involve? Refer to:
  - the difference between sequencing number names and counting objects
  - matching one-to-one
  - comparing groups in terms of 'more than', 'less than', 'fewer than' and 'the same number as'
  - cardinal and ordinal numbers from 1–10
  - introducing the concept of the empty set with the number word 'zero' and number symbol '0'.
- ◆ What is the value of representing number in multiple ways? Provide and explain concrete examples.
- ◆ Discuss estimation in relation to the development of number concept.

Refer to the *Concept Guide* and *Activity Guides* for examples of activities, and discuss how these were implemented in the classroom.

### Topic 2: Calculations (Numbers, Operations and Relationships)

Prepare a presentation that includes:

- ◆ a mapping of the main concepts/skills on flipchart paper
- ◆ how this topic is taught in Grade R
- ◆ a display with concrete objects, pictures and 'examples' of learners' work to support your discussion
- ◆ important points to note about this topic.

You will need to facilitate a discussion and answer questions from the whole group.

## THUMETSHEDZO YA B: THERO DZA NYITO YA 2

### Thero ya 1: Mveledziso ya divhaipfi ya nomboro na u vhalela (Nomboro, Tswayo na Vhushaka)

Kha vha lugisele mukumedzo une wa katela:

- ◆ u n̄wala nyolo ya divhaipfi ya ndeme/zwikili kha bammbiri la filipitshati
- ◆ uri thero iyi i funzwa hani kha Gireidi ya T
- ◆ tano la zwithu zwi fareaho, zwifanyiso na 'tsumbo' dza mushumo wa vhagudi u itela u tikedza khaseledzo yavho
- ◆ mbuno dza ndeme dzine dza fanela u dzhielwa nzhele nga thero iyi.

Vha do fanela u tshimbidza khaseledzo na u fhindula mbudziso u bva tshigwadani tshihulwane.

#### Mbuno dzine vha fanela u dzi sedza kha mukumedzo wavho:

- ◆ Divhaipfi ya nomboro ndi mini?
- ◆ Vhana vha nga wana hani divhaipfi ya nomboro?  
U vhalela hu katela mini? Kha vha sedze kha:
  - phambano vhukati ha u tevhekanya madzina a nomboro na u vhalela zwithu
  - u fanyisa tshithu nga tshithu
  - u vhambedza zwigwada u ya nga 'zwinzhi kha', 'zwituku kha', 'zwi si gathi kha' na 'tshivhalo tshi fanaho sa'
  - nomboro dza khadinala na dza thevhekano u bva kha 1-10
  - u divhadza divhaipfi ya sete i si na tshithu nga ipfinomboro 'pumu' na tshiga tsha nomboro '0'.
- ◆ Ndi ifhio ndeme ya u imela nomboro nga ndila nnzhi? Kha vha netshedze na u talutshedza tsumbo dzi fareaho.
- ◆ Kha vha haseledze nyanganyelo zwi na vhushaka na mveledziso ya divhaipfi ya nomboro.

Kha vha sedze kha *Nyendedzi ya Divhaipfi* na *Nyendedzi dza Nyito* u itela tsumbo dza nyito, vha haseledze uri izwi zwo thomiwa hani ngomu klasini.

### Thero ya 2: Mirekanyo (Nomboro, Tswayo na Vhushaka)

Kha vha lugisele mukumedzo une wa katela:

- ◆ u n̄wala nyolo ya divhaipfi ya ndeme/zwikili kha bammbiri la filipitshati
- ◆ uri thero iyi i funzwa hani kha Gireidi ya T
- ◆ tano la zwithu zwi fareaho, zwifanyiso na 'tsumbo' dza mushumo wa vhagudi u itela u tikedza khaseledzo yavho
- ◆ mbuno dza ndeme dzine dza fanela u dzhielwa nzhele nga thero iyi.

Vha do fanela u tshimbidza khaseledzo na u fhindula mbudziso u bva tshigwadani tshihulwane.

**Points to consider in your presentation:**

- ◆ Breaking down numbers and building up numbers.
- ◆ Representing partitioned groups of objects.
- ◆ Introducing the concept of addition as combining two collections.
- ◆ Introducing the concept of subtraction as taking away from a collection.
- ◆ Comparing two collections of objects by matching one-to-one to find the difference.
- ◆ Using the number washing line and a jumping track to solve addition problems – ‘adding on’ or ‘counting on’.
- ◆ Using the number washing line and a jumping track to solve subtraction problems – ‘counting back’.
- ◆ Introducing the concept of equal sharing and grouping.
- ◆ Promoting rapid recall and number facts.

Refer to the *Concept Guide* and *Activity Guides* for examples of activities, and discuss how these were implemented in the classroom.

**Topic 3: Patterns, Functions and Algebra**

Prepare a presentation that includes:

- ◆ a mapping of the main concepts/skills on flipchart paper
- ◆ how this topic is taught in Grade R
- ◆ a display with concrete objects, pictures and ‘examples’ of learners’ work to support your discussion
- ◆ important points to note about this topic.

You will need to facilitate a discussion and answer questions from the whole group.

**Points to consider in your presentation:**

- ◆ Introducing the idea of a repeated pattern.
- ◆ Identifying the pattern unit.
- ◆ Explaining the meaning of ‘variable’ and what is appropriate in Grade R.
- ◆ Making linear patterns with one variable.
- ◆ Discuss the process of introducing pattern in Grade R. Provide concrete and pictorial examples to support your discussion.

Refer to the *Concept Guide* and *Activity Guides* for examples of activities, and discuss how these were implemented in the classroom.

**Mbuno dzine vha fanela u dzi sedza kha mukumedzo wavho:**

- ◆ U kwasha nomboro na u fhaṭa nomboro.
- ◆ U imela zwigwada zwa zwithu zwo khethekanywaho.
- ◆ U ḍivhadza ḍivhaipfi ya u ṭanganya sa u paṭekanya khuvhanganyo mbili.
- ◆ U ḍivhadza ḍivhaipfi ya u ṭusa sa u bvisa u bva kha khuvhanganyo.
- ◆ U vhambedza khuvhanganyo mbili dza zwithu nga u fanyisa tshithu nga tshithu u itela u wana phambano.
- ◆ U shumisa muthambi wa u anea nomboro na mutalombalo u tandulula thaidzo dza u ṭanganya – ‘u ṭanganya u ya phanḍa’ kana ‘u vhalela u ya phanḍa’.
- ◆ U shumisa muthambi wa u anea nomboro na mutalombalo u tandulula thaidzo dza u ṭusa – ‘u vhalela u humela murahu’.
- ◆ U ḍivhadza ḍivhaipfi ya u kovhana hu eḍanaho na u vhea nga zwigwada.
- ◆ U ṭuṭuwedza u elelwa nga u ṭavhanya na mbuno dza nomboro.

Kha vha sedze kha *Nyendedzi ya Ḍivhaipfi* na *Nyendedzi dza Nyito* u itela tsumbo dza nyito, vha haseledze uri izwi zwo thomiwa hani ngomu kiḷasini.

**Thero ya 3: Phetheni, Fankisheni na Aḷidzhebura**

Kha vha lugisele mukumedzo une wa katela:

- ◆ u ṅwala nyolo ya ḍivhaipfi ya ndeme/zwikili kha bammbiri ḷa fiḷipitshati
- ◆ uri thero iyi i funzwa hani kha Gireidi ya Ṭ
- ◆ ṭano ḷa zwithu zwi fareaho, zwifanyiso na ‘tsumbo’ dza mushumo wa vhagudi u itela u tikedza khaseledzo yavho
- ◆ mbuno dza ndeme dzine dza fanela u dzhielwa nzhele nga thero iyi.

Vha ḍo fanela u tshimbidza khaseledzo na u fhindula mbudziso u bva tshigwadani tshihulwane.

**Mbuno dzine vha fanela u dzi sedza kha mukumedzo wavho:**

- ◆ U ḍivhadza muhumbulo wa phetheni i dovhoolaho.
- ◆ U topola zwipiḍa zwa sete kha phetheni.
- ◆ U ṭalutshedza ṭhalutshedzo ya ‘tshivhalo tsha zwipiḍa zwa sete dzo fhambanaho ya phetheni’ na zwine zwo tea kha Gireidi ya Ṭ.
- ◆ U ita phetheni i vhumbaho mutalo tswititi nga tshithihi tsha zwipiḍa zwa sete ya phetheni.
- ◆ U haseledza maitete a u ḍivhadza phetheni kha Gireidi ya Ṭ. Kha vha ṅee tsumbo dzi fareaho na zwifanyiso u tikedza khaseledzo yavho.

Kha vha sedze kha *Nyendedzi ya Ḍivhaipfi* na *Nyendedzi dza Nyito* u itela tsumbo dza nyito, vha haseledze uri izwi zwo thomiwa hani ngomu kiḷasini.

#### **Topic 4: Space and Shape (Geometry)**

Prepare a presentation that includes:

- ◆ a mapping of the main concepts/skills on flipchart paper
- ◆ how this topic is taught in Grade R
- ◆ a display with concrete objects, pictures and 'examples' of learners' work to support your discussion
- ◆ important points to note about this topic.

You will need to facilitate a discussion and answer questions from the whole group.

#### **Points to consider in your presentation:**

- ◆ Discovering the general properties of 2-D shapes and 3-D objects.
- ◆ Collecting shapes and objects that have these shapes on their faces.
- ◆ Sorting shapes and objects and describing the 'rule' (criterion) for sorting.
- ◆ Introducing symmetry.
- ◆ Making symmetrical shapes with one or two lines of symmetry through drawing, folding and cutting.

Refer to the *Concept Guide* and *Activity Guides* for examples of activities, and discuss how these were implemented in the classroom.

#### **Topic 5: Measurement**

Prepare a presentation that includes:

- ◆ a mapping of the main concepts/skills on flipchart paper
- ◆ how this topic is taught in Grade R
- ◆ a display with concrete objects, pictures and 'examples' of learners' work to support your discussion
- ◆ important points to note about this topic.

You will need to facilitate a discussion and answer questions from the whole group.

#### **Points to consider in your presentation:**

- ◆ Using vocabulary associated with time.
- ◆ Ordering (sequencing) events and activities according to the time at which they take place.
- ◆ Comparing objects according to their size.
- ◆ Identifying the attribute to be measured.

#### **Thero ya 4: Tshikhala na Tshivhumbeo (Dzhometiri)**

Kha vha lugisele mukumedzo une wa katela:

- ◆ u n̄wala nyolo ya ðivhaipfi ya ndeme/zwikili kha bammbiri ɭa filipitshati
- ◆ uri thero iyi i funzwa hani kha Gireidi ya Ƨ
- ◆ ɭano ɭa zwithu zwi fareaho, zwifanyiso na 'tsumbo' dza mushumo wa vhagudi' u itela u tikedza khaseledzo yavho
- ◆ mbuno dza ndeme dzine dza fanela u dzhielwa nzhele nga thero iyi.

Vha ðo fanela u tshimbidza khaseledzo na u fhindula mbudziso u bva tshigwadani tshihulwane.

#### **Mbuno dzine vha fanela u dzi sedza kha mukumedzo wavho:**

- ◆ U tumbula vhunzani guṭe ha zwivhumbeo zwa 2-D na zwithu zwa 3-D.
- ◆ U kuvhanganya zwivhumbeo na zwithu zwine zwa vha na zwivhumbeo izwi kha zwifhaṭuwo zwazwo.
- ◆ U vhekanya zwivhumbeo na zwithu na u ɭalusa 'mulayo' (khiraitheria) wa u vhekanya.
- ◆ U ðivhadza ndinganyahuvhili.
- ◆ U ita zwivhumbeo zwa ndinganyahuvhili nga mutalo muthihi kana mivhili ya ndinganyahuvhili nga u ola, u peta na u gera.

Kha vha sedze kha *Nyendedzi ya ðivhaipfi* na *Nyendedzi dza Nyito* u itela tsumbo dza nyito, vha haseledze uri izwi zwo thomiwa hani ngomu kilasini.

#### **Thero ya 5: Muelo**

Kha vha lugisele mukumedzo une wa katela:

- ◆ u n̄wala nyolo ya ðivhaipfi ya ndeme/zwikili kha bammbiri ɭa filipitshati
- ◆ uri thero iyi i funzwa hani kha Gireidi ya Ƨ
- ◆ ɭano ɭa zwithu zwi fareaho, zwifanyiso na 'tsumbo' dza mushumo wa vhagudi u itela u tikedza khaseledzo yavho
- ◆ mbuno dza ndeme dzine dza fanela u dzhielwa nzhele nga thero.

Vha ðo fanela u tshimbidza khaseledzo na u fhindula mbudziso u bva tshigwadani tshihulwane

#### **Mbuno dzine vha fanela u dzi sedza kha mukumedzo wavho:**

- ◆ U shumisa ðivhaipfi i tshimbilelanaho na tshifhinga.
- ◆ U dzudzanya (u tevhekanya) zwiwo na nyito u ya nga tshifhinga tshe zwa itea ngatsho.
- ◆ U vhambedza zwithu u ya nga saizi yazwo.
- ◆ U topola vhunzani vhune ha ðo elwa.

- ◆ Using maths vocabulary to compare height, length and width.
- ◆ Using maths vocabulary to compare the mass of different objects.
- ◆ Using maths vocabulary to compare capacity and volume.
- ◆ Explain what non-standard measurement is and how it relates to each of the following Measurement topics:
  - time
  - length
  - mass
  - capacity/volume.

Refer to the *Concept Guide* and *Activity Guides* for examples of activities, and discuss how these were implemented in the classroom.

## Topic 6: Data Handling

Prepare a presentation that includes:

- ◆ a mapping of the main concepts/skills on flipchart paper
- ◆ how this topic is taught in Grade R
- ◆ a display with concrete objects, pictures and 'examples' of learners' work to support your discussion
- ◆ important points to note about this topic.

You will need to facilitate a discussion and answer questions from the whole group.

### Points to consider in your presentation:

- ◆ Direct representation of situations using learners, objects and pictures.
- ◆ How does the idea of one-to-one matching relate to representing information/data in pictures or pictographs?
- ◆ What is the purpose of the pictures in the bottom row of the pictograph?
- ◆ What is the advantage of arranging the pictures in columns?
- ◆ Why do the pictures need to be the same size?
- ◆ Why do the pictures have to be evenly spaced?
- ◆ Discuss interpreting the information on a pictograph.

Refer to the *Concept Guide* and *Activity Guides* for examples of activities, and discuss how these were implemented in the classroom.



- ◆ U shumisa ðivhaipfi ya mbalo u vhambedza vhunṯha, vhulapfu na vhuphara.
- ◆ U shumisa ðivhaipfi ya mbalo u vhambedza tshileme tsha zwithu zwo fhambanaho.
- ◆ U shumisa ðivhaipfi ya mbalo u vhambedza vhungomu na voḷumu.
- ◆ Kha vha ṯalutshedze uri zwa u ela zwi si zwa tshitandadi ndi mini na uri zwi na vhushaka hani na inwe na inwe ya thero dza Muelo dzi tevhelaho:
  - tshifhinga
  - vhulapfu
  - tshileme
  - vhungomu/voḷumu.

Kha vha sedze kha *Nyendedzi ya ðivhaipfi* na *Nyendedzi dza Nyito* u itela tsumbo dza nyito, vha haseledze uri izwi zwo thomiwa hani ngomu kiḷasini.

### **Thero ya 6: U shuma na Data**

Kha vha lugisele mukumedzo une wa katela:

- ◆ u nṯwala nyolo ya ðivhaipfi ya ndeme/zwikili kha bammbiri ḷa fiḷipitshati
- ◆ uri thero iyi i funzwa hani kha Gireidi ya ṯ
- ◆ ṯano ḷa zwithu zwi fareaho, zwifanyiso na 'tsumbo' dza mushumo wa vhagudi u itela u tikedza khaseledzo yavho
- ◆ mbuno dza ndeme dzine dza fanela u dzhielwa nzhele nga thero iyi.

Vha ḍo fanela u tshimbidza khaseledzo na u fhindula mbudziso u bva tshigwadani tshihulwane

#### **Mbuno dzine vha fanela u dzi sedza kha mukumedzo wavho:**

- ◆ U imela ho livhanaho ha nyimele vha tshi shumisa vhagudi, zwithu na zwifanyiso.
- ◆ Muhumbulo wa u fanyisa tshithu nga tshithu u na vhushaka hani na u imela mafhungo/data kha zwifanyiso kana nyolo?
- ◆ Ndi ifhio ndivho ya zwifanyiso zwi re fhasi kha rou ya nyolo?
- ◆ Ndi zwifhio zwivhuya zwa u dzudzanya zwifanyiso nga dzikhoḷumu?
- ◆ Ndi ngani zwifanyiso zwi tshi fanela u vha zwa saizi i fanaho?
- ◆ Ndi ngani zwifanyiso zwi tshi fanela u vhewa na zwikhala zwi eḍanaho vhukati?
- ◆ Kha vha haseledze u ṯalutshedzela mafhungo a re kha nyolo.

Kha vha sedze kha *Nyendedzi ya ðivhaipfi* na *Nyendedzi dza Nyito* u itela tsumbo dza nyito, vha haseledze uri izwi zwo thomiwa hani ngomu kiḷasini.

## Topic 7: Classroom management

Prepare a presentation that includes:

- ◆ a mapping of this topic on flipchart paper
- ◆ this topic in relation to Grade R
- ◆ a display with concrete objects, pictures and 'examples' of learners' work to support your discussion
- ◆ important points to note about this topic.

You will need to facilitate a discussion and answer questions from the whole group.

### Points to consider in your presentation:

- ◆ How do you create a stimulating learning environment? Refer to:
  - the classroom walls
  - the classroom floor space
  - the carpet area
  - the maths area.
- ◆ How do you manage and arrange resources (concrete apparatus) in the classroom?
- ◆ Describe how teaching in whole class and small groups is implemented.
- ◆ Outline the different types of planning that are required for successful teaching and learning.
- ◆ How are different levels of learner competence managed?

Refer to the *Concept Guide* and *Activity Guides* to support your discussion.

## Topic 8: Assessment

Prepare a presentation that includes:

- ◆ a mapping of this topic on flipchart paper
- ◆ this topic in relation to Grade R
- ◆ a display with concrete objects, pictures and 'examples' of learners' work to support your discussion
- ◆ important points to note about this topic.

You will need to facilitate a discussion and answer questions from the whole group.

### Points to consider in your presentation:

- ◆ What forms of assessment are implemented in Grade R?
- ◆ Describe how these are used for tracking learner progress and for reporting purposes.

## Thero ya 7: Ndangulo ya kilasi

Kha vha lugisele mukumedzo une wa katela:

- ♦ u ñwala nyolo ya thero iyi kha bammbiri la filipitshati
- ♦ thero iyi zwi tshi tutshelana na Gireidi ya T
- ♦ tano la zwithu zwi fareaho, zwifanyiso na 'tsumbo' dza mushumo wa vhagudi' u itela u tikedza khaseledzo yavho
- ♦ mbuno dza ndeme dzine dza fanela u dzhielwa nzhele nga thero iyi.

Vha do fanela u tshimbidza khaseledzo na u fhindula mbudziso u bva tshigwadani tshihulwane.

### Mbuno dzine vha fanela u dzi sedza kha mukumedzo wavho:

- ♦ Vha sikisa hani vhupo ha u guda vhu tutulaho dzangalelo? Kha vha sedze kha:
  - mbondo dza kilasirumu
  - tshikhala tsha fuloro tsha kilasirumu
  - khaphetheni
  - fhethu ha mbalo.
- ♦ Vha langa na u dzudzanya hani zwishumiswa (zwishumiswa zwi fareaho) ngomu kilasini?
- ♦ Kha vha taluse uri u funza kilasi yothe na zwigwada zwituku zwi thomiwa hani.
- ♦ Kha vha ri gavhele tshakha dzo fhambanaho dza u pulana dzine dza todea u itela u funza na u guda hu bevelaho.
- ♦ Vha langa hani levele dzo fhambanaho dza vhukoni ha vhagudi?

Kha vha sedze kha *Nyendedzi ya Divhaipfi* na *Nyendedzi dza Nyito* u tikedza khaseledzo yavho.

## Thero ya 8: U linga

Kha vha lugisele mukumedzo une wa katela:

- ♦ u ñwala nyolo ya thero iyi kha bammbiri la filipitshati
- ♦ thero iyi zwi tshi tutshelana na Gireidi ya T
- ♦ tano la zwithu zwi fareaho, zwifanyiso na 'tsumbo' dza mushumo wa vhagudi u itela u tikedza khaseledzo yavho
- ♦ mbuno dza ndeme dzine dza fanela u dzhielwa nzhele nga thero iyi.

Vha do fanela u tshimbidza khaseledzo na u fhindula mbudziso u bva tshigwadani tshihulwane.

### Mbuno dzine vha fanela u dzi sedza kha mukumedzo wavho:

- ♦ Ndi ndila dzifhio dza u linga dzine dza thomiwa kha Gireidi ya T?
- ♦ Kha vha taluse uri izwi zwi shumiswa hani u tevhela mvelaphanda ya mugudi na ndivho ya u vhiga.

- ◆ Provide examples and illustrations to support your presentation.
- ◆ Describe in detail one learner's solution to a word problem and describe how you would use a rubric to assess this learner.
- ◆ Clarify the use of checklists.
- ◆ How do the various forms of assessment, guide our reporting to parents?

Refer to the *Concept Guide* and *Activity Guides* to support your discussion.

## **Topic 9: Problem solving**

Prepare a presentation that includes:

- ◆ a mapping of the main concepts/skills on flipchart paper
- ◆ how this topic is taught in Grade R
- ◆ a display with concrete objects, pictures and 'examples' of learners' work to support your discussion
- ◆ important points to note about this topic.

You will need to facilitate a discussion and answer questions from the whole group.

### **Points to consider in your presentation:**

- ◆ What does problem solving involve in Grade R?
- ◆ What are the language considerations involved in framing word problems?
- ◆ Why is problem solving included in Grade R?
- ◆ What skills do learners need to develop to become successful problem solvers?
- ◆ Give examples of different kinds of word problems that could be presented in Grade R.
- ◆ What strategies or techniques do Grade R learners use when solving word problems?
- ◆ What is the teacher's role?

Refer to the *Concept Guide* and *Activity Guides* for examples of activities, and discuss how these were implemented in the classroom.

- ◆ Kha vha nee tsumbo na zwifanyiso u tikedza mukumedzo wavho.
- ◆ Kha vha taluse nga vhuḁalo thandululo ya mugudi muthihi kha thaidzo ya ipfi vha taluse na uri vha ḁo shumisa hani ruburiki u linga mugudi uyu.
- ◆ Kha vha bvisele khagala tshumiso ya mitevhe ya u ḁola.
- ◆ Nḁila dzo fhambanaho dza u linga dzi endedza hani u vhiga hashu kha vhabebi?

Kha vha sedze kha *Nyendedzi ya Divhaipfi* na *Nyendedzi dza Nyito* u tikedza khaseledzo yavho.

### **Thero ya 9: U tandulula thaidzo**

Kha vha lugisele mukumedzo une wa katela:

- ◆ u nḁwala nyolo ya ḁivhaipfi ya ndeme/zwikili kha bammbiri la filipitshati
- ◆ uri thero iyi i funzwa hani kha Gireidi ya Ḥ
- ◆ ḁano la zwithu zwi fareaho, zwifanyiso na 'tsumbo' dza mushumo wa vhagudi u itela u tikedza khaseledzo yavho
- ◆ mbuno dza ndeme dzine dza fanela u dzhielwa nzhele nga thero iyi.

Vha ḁo fanela u tshimbidza khaseledzo na u fhindula mbudziso u bva tshigwadani tshihulwane

#### **Mbuno dzine vha fanela u dzi sedza kha mukumedzo wavho:**

- ◆ U tandulula thaidzo hu katela mini kha Gireidi ya Ḥ?
- ◆ Ndi zwifhio zwi sedzwaho nga luambo zwo katelwaho kha u vhumba thaidzo dza ipfi?
- ◆ Ndi ngani u tandulula thaidzo ho katelwa kha Gireidi ya Ḥ?
- ◆ Ndi zwikili zwifhio zwine vhagudi vha fanela u bveledza uri vha bvelele kha u vha vhatandululi vha thaidzo?
- ◆ Kha vha nee tsumbo dza tshakha dzo fhambanaho dza thaidzo dza ipfi dzine dzi nga kumedzwa kha Gireidi ya Ḥ.
- ◆ Ndi maano kana thekiniki dzifhio dzi shumiswaho nga vhagudi vha Gireidi ya Ḥ musi vha tshi tandulula thaidzo dza ipfi?
- ◆ Mushumo wa mugudisi ndi ufhio?

Kha vha sedze kha *Nyendedzi ya Divhaipfi* na *Nyendedzi dza Nyito* u itela tsumbo dza nyito, vha haseledze uri izwi zwo thomiwa hani ngomu kiḁasini.

# Workshop 11 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 u Linga ya Wekishopo ya 11

1. Wekishopo yo swikelela ndavhelelo dzavho?

---

---

---

---

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

---

---

---

---

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

---

---

---

---

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

---

---

---

---

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

---

---

---

---