



**GAUTENG PROVINCE**  
EDUCATION  
REPUBLIC OF SOUTH AFRICA

**GGT 2030**  
GROWING GAUTENG TOGETHER

Xitsonga/English

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



**Ndzetelavutivi wa 4 • Workshop 4  
Xiletelo xa Muhumelerisi • Facilitator's Guide**

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

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.

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Programme conceptualisation and management: Cally Kuhne and Tholisa Matheza

Translation and publishing project management: Arabella Koopman

Translation: Maurice Hlangwani

Editing (Xitsonga): Gezani Chabalala

Illustrations: Jiggs Snaddon-Wood

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

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

Phurojeke ya Antswiso wa Matematiki na Tindzimi ya Giredi ya V yi fambisiwa hi **JET Education Services** na **Schools Development Unit** ya **UCT** na **Wordworks** tanihi vatirhisani va xithekiniki.

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

## SWIKHENSO

Ku khensa ko hlawuleka eka:

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



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

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Ku vumbiwa ka nongoti na malawulelo ya nongonoko: Cally Kuhne na Tholisa Matheza  
Vuhundzuluxeri na malawulelo ya phurojeke ya vukandziyisi: Arabella Koopman  
Vuhundzuluxeri bya Xitsonga: Maurice Hlangwani  
Vuhleri na vuhlayisi bya Xitsonga: Gezani Chabalala  
Swifaniso: Jiggs Snaddon-Wood

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# Overview

## Purpose

This is the fourth 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 assist teachers to implement the Maths Programme in their classrooms. Participants will have the opportunity to reflect on their observations and explore how the **level principle** informs planning, teaching and learning. Participants will also consider the **level principle** and how to respond to learners with individual developmental and learning needs. The sessions will provide additional knowledge and understanding of teaching and learning in the Content Areas covered in Week 10 of Term 1, and Weeks 1–3 of Term 2.

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 reflect on the implementation of Term 1 Weeks 6–9
- ◆ To explore strategies to support teaching maths in Grade R
- ◆ To start to present solutions to learner progress and developmental levels
- ◆ To apply the Maths Programme principles in weekly planning
- ◆ To engage with the Maths Programme content of Term 1 Week 10 and Term 2 Weeks 1–3 (Data Handling; Numbers, Operations and Relationships; Space and Shape (Geometry))

## Workshop content

- ◆ Opening and reflection (1 hour)
  - ◆ Session 1: Data Handling (1 hour)
- TEA
- ◆ Session 2: Numbers, Operations and Relationships (1 hour)
  - ◆ Session 3: Space and Shape (Geometry) (1 hour)
- LUNCH
- ◆ Session 4: Planning for teaching (2 hours)

# Nkatsakanyo

## Xikongomelo

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

Xikongomelo xa ndzetelavutivi lowu i ku pfuna vadyondzisi ku tirhisa Nongonoko wa Matematiki etikamareni to dyondzela ta vona. Vatekaxiave va ta kuma xivandlanene xa ku ehleketisisa hi mayelana na mixiyaxiyo ya vona na ku valanga hilaha **nawu wa levhele** wu letelaka hakona nkunguhato, madyondziselo na madyondzelo. Vatekaxiave va ta tlhela va anakanya hi **nawu wa levhele** na hilaha va nga angulaka hakona vadyondzi lava nga na swilaveko swa nhluvukiso swa ku dyondza. Tisexini leti ti ta nyika vutivi byo engetela na ntwisiso wa madyondziselo na madyondzelo eka Swiyenge swa Vundzeni leswi angarheliwaka eka Vhiki ra 10 ra Kotara ya 1, na Mavhiki ya 1–3 ya Kotara ya 2.

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

## Mivuyelo ya dyondzo

- ◆ Ku ehleketisisa hi matirhelo ya Mavhiki ya 6–9 ya Kotara ya 1
- ◆ Ku valanga maqhinga yo seketela ku dyondzisa matematiki eka Giredi ya V
- ◆ Ku sungula ku nyika switshunxo swa ku ya emahlweni ka vadyondzi na tilevhele ta nhluvukiso
- ◆ Ku tirhisa milawu ya Nongonoko wa Matematiki eka nkunguhato wa vhiki na vhiki
- ◆ Ku tirhana na vundzeni bya Nongonoko wa Matematiki wa Vhiki ra 10 ra Kotara ya 1 na Mavhiki ya 1–3 ya Kotara ya 2 (Matirhiselo ya Vuxokoxoko bya Tinhlayo; Tinomboro, Tioparexini na Vuxaka; Ndhawu na Xivumbeko (Jometiri))

## Vundzeni bya ndzetelavutivi

- ◆ Ku pfula na ku ehleketisisa (1 ya awara)
  - ◆ Sexini ya 1: Matirhiselo ya Vuxokoxoko bya Tinhlayo (1 ya awara)
- TIYA
- ◆ Sexini ya 2: Tinomboro, Tioparexini na Vuxaka (1 ya awara)
  - ◆ Sexini ya 3: Ndhawu na Xivumbeko (Jometiri) (1 ya awara)
- LANCI
- ◆ Sexini ya 4: Nkunguhato wa ku dyondzisa (2 wa tiawara)

## Preparation

- ◆ PPT welcome and outcomes
- ◆ Read:  
*Concept Guide*, pages 136–137, 212–219  
*Activity Guide: Term 1*, pages 18–21  
Appendix A: Term 1 and 2 Weekly Content Summary
- ◆ Set out a Maths Programme *Resource Kit* on each group's table.
- ◆ PPT: Data Handling cycle.
- ◆ Prepare the story, *They pulled and they pulled*, (*Activity Guide: Term 2*, pages 62 and 198).

## Materials

- ◆ Flipchart paper, kokis
- ◆ *Resource Kit*: animal counters
- ◆ *Resource Kit*: attribute blocks
- ◆ A copy of *Activity Guide: Term 2* for each participant



## Malulamiselo

- ◆ PPT ku amukela na mivuyelo
- ◆ Hlaya:

*Xiletelo xa Minongoti*, tipheji ta 136–137, 212–219

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

Xiengetelwa xa A: Nkomiso wa Vundzeni wa Vhiki na Vhiki wa Kotara ya 1 na 2

- ◆ Lulamisa *Khiti ya Swipfuno* ya Nongonoko wa Matematiki eka tafula ra ntlawa wun'wana na wun'wana.
- ◆ PPT: Ndzhendzeleko wa Matirhiselo ya Vuxokoxoko bya Tinhlayo.
- ◆ Lulamisa xitori, *Va koka va kokile*, (*Xiletelo xa Migingiriko: Kotara ya 2*, tipheji 62 na 198).

## Timatheriyali

- ◆ Maphepha ya chati yo pfula, tikhoki
- ◆ *Khiti ya Swipfuno*: swihlayeri swa swiharhi
- ◆ *Khiti ya Swipfuno*: tibuloko ta swihlawulekisi
- ◆ Kopi ya *Xiletelo xa Migingiriko: Kotara ya 2* ya mutekaxiave un'wana na un'wana

# Opening and reflection

1 hour

## Facilitator's notes

- ◆ PPT: Learning outcomes of the workshop.
- ◆ Remind participants of the *Take back to school* task from the end of Workshop 3.
- ◆ Refer participants to **Activity 1** and read through the instructions. Participants complete the activity in their groups. Groups share key points with the large group.
- ◆ Remind participants of the **level principle** and the importance of taking into account the learners' different abilities and developmental levels.

Reflect on the implementation of the Maths Programme in your daily programme and complete the following activity in your group.



### Activity 1

Discuss your progress in implementing the *Take back to school* task from Workshop 3.

Refer to the observation check boxes at the end of each week in *Activity Guide: Term 1*, Weeks 6, 7, 8 and 9.

1. What insights did you gain while observing learners during their Mathematics focus time?

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2. What did you find difficult about the observation during the teacher-guided activity?

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3. Mention one new thing that is working well with your implementation of Term 1 Weeks 6–9. Have you found that the Maths Programme is assisting with teaching and learning in your Grade R class?

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According to the **level principle**, differentiation means that what you teach and how you teach it needs to take into account the different abilities or developmental levels of your learners. To use this approach, you need to continuously observe and record each learner's progress and development in maths.

## Tinotsi ta muhumelerisi

- ◆ PPT: Mivuyelo ya ku dyondza ya ndzetelavutivi.
- ◆ Tsundzuxa vatekaxiave hi *Xintirhwana xo tthelela na xona exikolweni* kusuka eka kuhela ka Ndzetelavutivi wa 3.
- ◆ Kongomisa vatekaxiave eka **Nghingiriko wa 1** kutani va hlaya swileriso. Vatekaxiave va hetisa nghingiriko lowu emitlaweni ya vona. Mitlawa yi avelana timhakakulu na ntlawa lowukulu.
- ◆ Tsundzuxa vatekaxiave hi **nawu wa levhele** na nkoka wa ku tekela enhlokweni vuswikoti byo hambanahambana bya vadyondzi na tilevhele ta nhluvukiso.

Ehleketisisani hi mayelana na ku tirhisiwa ka Nongonoko wa Matematiki eka nongonoko wa wena wa siku na siku kutani u hetisa nghingiriko lowu landzelaka entlaweni wa wena.



### Nghingiriko wa 1

Kanelani ku ya emahlweni ka n'wina eka ku tirhisa *Xintirhwana xo tthelela na xona exikolweni* kusuka eka Ndzetelavutivi wa 3.

Kongomisa eka mabokisi ya nkambisiso wa nxiyaxiyo ekuheleni ka vhiki rin'wana na rin'wana eka *Xiletelo xa Migingiriko*: Mavhiki ya 6, 7, 8 na 9 ya Kotara ya 1.

1. Xana i mitwisiso yihi leyi u yi kumeke loko u ri karhi u xiyaxiya vadyondzi hi nkarhi wa vona wa nkongomo wa Matematiki?

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2. Xana hi swihi leswi u swi kumeke swi tika hi mayelana na nxiyaxiyo hi nkarhi wa nghingiriko lowu leteriwaka hi mudyondzisi?

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3. Vula xilo xin'we xintshwa lexi xi tirhaka kahle swinene hi matirhiselo ya wena ya Mavhiki ya 6–9 ya Kotara ya 1. Xana u swi kumile leswaku Nongonoko wa Matematiki wa pfuna hi madyondziselo na madyondzelo eka tilasi ya wena ya Giredi ya V?

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Hi ku ya hi **nawu wa levhele**, vuhambanisi swi vula leswaku leswi u swi dyondzisaka na hilaha u dyondzisaka hakona u fanele ku tekela enhlokweni vuswikoti byo hambanahambana kumbe tilevhele ta nhluvukiso ta vadyondzi va wena. Ku tirhisa endlelo leri, u fanele ku xiyaxiya hi ndlela leyi yaka emahlweni na ku rhekoda matirhelo lama yaka emahlweni ya mudyondzi un'wana na un'wana na nhluvuko eka matematiki.

# Session 1: Data Handling

1 hour

## Facilitator's notes

- ◆ This workshop focuses on teaching the content of the Maths Programme for Term 1 Week 10 and Term 2 Weeks 1–3.
- ◆ Explain that the focus of Term 1 Week 10 is on Data Handling.
- ◆ Refer participants to pages 136–137 of the *Concept Guide*.
- ◆ Ask participants to work in groups to complete **Activity 2**. Ask one person from each group to share their ideas.

This workshop focuses on teaching the following Maths Programme content: Term 1 Week 10 and Term 2 Weeks 1–3. This session focuses on Term 1 Week 10: Data Handling.

## Term 1 Content overview: Data Handling

Refer to the Data Handling Content Area on pages 136–137 of the *Concept Guide*.



### Activity 2

In your group, discuss:

1. What Data Handling content is covered in Term 1?

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2. What does the Maths Programme add to the content from CAPS?

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## Working with data

### Facilitator's notes

- ◆ Start this session with the following activity.  
Ask participants who are wearing trainers to stand together.  
Ask participants who are wearing sandals to stand together.  
Ask participants who are wearing high heels to stand together.  
Ask participants who are wearing closed shoes to stand together.  
(NOTE: Change this activity according to the season and the types of shoes participants are wearing.)  
Once the participants are in groups, discuss the following questions:  
*Which group has more people?*  
*Which group has fewer people?*  
*Which groups have the same number of people in them?*

# Sexini ya 1: Matirhiselo ya Vuxokoxoko bya Tinhlayo

1 ya awara

## Tinotsi ta muhumerisi

- ◆ Ndzetelavutivi lowu wu kongomisa eka ku dyondzisa vundzeni bya Nongonoko wa Matematiki wa Vhiki ra 10 ra Kotara ya 1 na Mavhiki ya 1–3 ya Kotara ya 2.
- ◆ Hlamusela leswaku nkongomo wa Vhiki ra 10 wa Kotara ya 1 wu hi mayelana na Matirhiselo ya Vuxokoxoko bya Tinhlayo.
- ◆ Kongomisa vatekaxiave eka tipheji ta 136–137 ta *Xiletelo xa Minongoti*.
- ◆ Kombela vatekaxiave ku tirha hi mitlawa ku hetisa **Nghingiriko wa 2**. Kombela munhu un'we kusuka eka ntlawa wun'wana na wun'wana ku avelana mianakanyo ya vona.

Ndzetelavutivi lowu wu kongomisa eka vundzeni bya Nongonoko wa Matematiki lebyi landzelaka: Vhiki ra 10 ra Kotara ya 1 na Mavhiki ya 1–3 ya Kotara ya 2. Sexini leyi yi kongomisa eka Vhiki ra 10 Kotara ya 1: Matirhiselo ya Vuxokoxoko bya Tinhlayo.

## Nkatsakanyo wa Vundzeni wa Kotara ya 1: Matirhiselo ya Vuxokoxoko bya Tinhlayo

Kongomisa eka Xiyenge xa Vundzeni xa Mpimo lexi nga eka tipheji ta 136–137 ta *Xiletelo xa Minongoti*.



### Nghingiriko wa 2

Entlaweni wa n'wina, kanelani.

1. Xana i vundzeni byihi bya Matirhiselo ya Vuxokoxoko bya Tinhlayo byi angarheliwaka eka Kotara ya 1?

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

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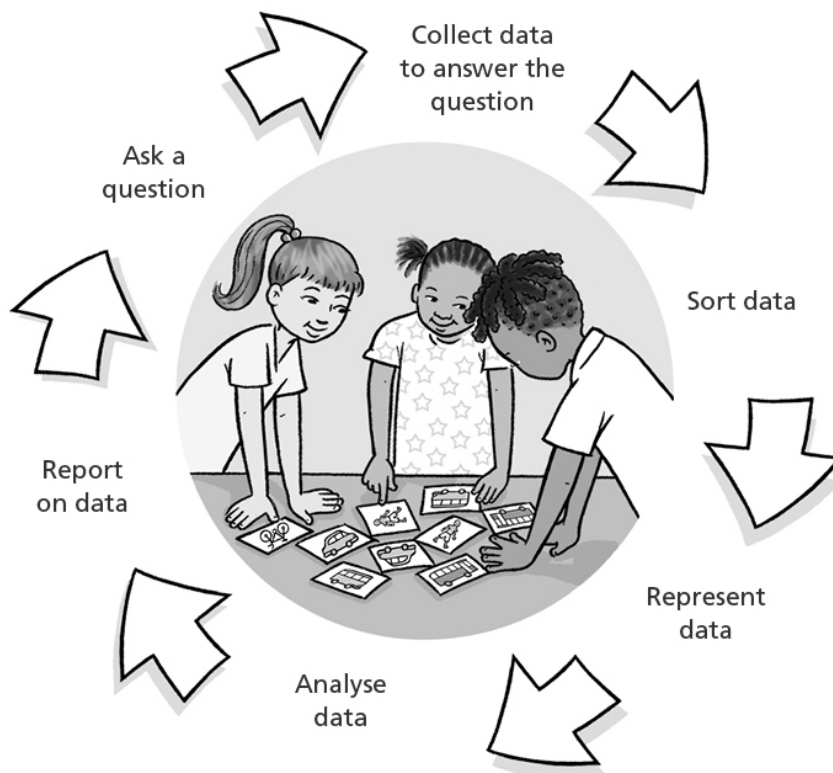
## Ku tirhana na vuxokoxoko bya tinhlayo

### Tinotsi ta muhumerisi

- ◆ Sungula sexini leyi hi nghingiriko lowu landzelaka.  
Kombela vatekaxiave lava va nga ambala mateki ku yima swin'we.  
Kombela vatekaxiave lava va nga ambala timphaxani ku yima swin'we.  
Kombela vatekaxiave lava va nga ambala makwayikwayi ku yima swin'we.  
Kombela vatekaxiave lava va nga ambala tintangu to pfaleka ku yima swin'we.  
(LEMUKA: Cinca nghingiriko lowu hi ku ya hi nguva na mixaka ya tintangu leti vatekaxiave va nga ti ambala.)  
Xikan'wekan'we loko vatekaxiave va ri emitlaweni, kanelani swivutiso leswi landzelaka.  
*Xana i ntlawa wihi wu nga na vanhu vo tala?*  
*Xana i ntlawa wihi wu nga na vanhu vatsongo?*  
*Xana i mitlawa yihi yi nga na nhlayo yo fana ya vanhu eka yona?*

- ◆ Explain that what participants have done is to sort/classify according to one particular attribute that is the same and that this is a very important part of Data Handling. Emphasise the importance of sorting and classification in Grade R.
- ◆ Discuss the kinds of sorting activities that learners could do in Grade R.
- ◆ PPT: Data Handling cycle and summarise content from the *Participant's Workbook*.
- ◆ Discuss each of the six steps in the Data Handling cycle.

In this session, you will learn about the Data Handling cycle as a process for solving problems. Data Handling in Grade R focuses on collecting, sorting, organising, representing and analysing information about people or things. The main reason we collect data is to answer a question or to solve a problem.



People often refer to the process of Data Handling as a cycle because the events or activities that are involved are repeated in the same sequence for each new question that is to be answered.

1. **Ask a question:** Learners decide what they want to find out about. This is the reason for collecting specific data or information.
2. **Collect data:** Learners decide they want to collect data based on the question or problem.

- ◆ Hlamusela leswaku leswi vatekaxiave va nga swi endla i ku ava/ntlawahata hi ku ya hi xihlawulekisi xin'we xo karhi lexi xi fanaka na leswaku i xiphemu xa nkoka swinene xa Matirhiselo ya Vuxokoxoko bya Tinhlayo.
- ◆ Tshikelela nkoka wa ku ava na ku ntlawahata eka Giredi ya V.
- ◆ Kanelani mixaka ya misingiriko ya ku ava leyi vadyondzi va nga kotaka ku yi endla eka Giredi ya V.
- ◆ PPT: Ndzhendzeleko wa Matirhiselo ya Vuxokoxoko bya Tinhlayo kutani u endla nkomiso kusuka eka *Buku ya Ntirho ya Vatekaxiave*.
- ◆ Kanelani rin'wana na rin'wana ra magoza lama tsevu lama nga eka ndzhendzeleko wa Matirhiselo ya Vuxokoxoko bya Tinhlayo.

Eka sexini leyi, mi ta dyondza hi mayelana na **ndzhendzeleko wa Matirhiselo ya Vuxokoxoko bya Tinhlayo** tanihi endlelo ra ku ololoxa swiphiso. Matirhiselo ya Vuxokoxoko bya Tinhlayo eka Giredi ya V ya kongomisa eka ku hlengeleta, ku ava, ku veketela, ku endla vuyimeri na ku xopaxopa vuxokoxoko hi mayelana na vanhu kumbe swilo. Xivangelokulu xa ku va hi hlengeleta vuxokoxoko bya tinhlayo i ku hlamula xivutiso kumbe ku ololoxa xiphiso.



Hakanyingi vanhu va vula leswaku endlelo ra Matirhiselo ya Vuxokoxoko bya Tinhlayo i ndzhendzeleko hikuva swiendleko kumbe misingiriko leyi khumbekaka yi vuyeleriwa hi nongoloko wo fana eka xivutiso xin'wana na xinwana lexintshwa lexi xi hlamuriwaka.

1. **Vutisa xivutiso:** Vadyondzi va boha lexi va lavaka ku xi kumisisa hi mayelana na xin'wana. Lexi hi xona xivangelo xa ku hlengeleta vuxokoxoko bya tinhlayo byo karhi kumbe vuxokoxoko.
2. **Hlengeleta vuxokoxoko bya tinhlayo:** Vadyondzi va boha hilaha va lavaka ku hlengeleta hakona vuxokoxoko bya tinhlayo hi ku ya hi xivutiso kumbe xiphiso lexi.

3. **Sort data:** Learners organise and sort data into groups according to the attribute. In order to answer questions and decide how to represent data that have been collected, decisions need to be made about how things could be sorted.
4. **Represent data:** Learners explore different ways of showing or displaying the information they have collected.
5. **Analyse data:** Learners describe and compare the data that is represented.
6. **Report on data:** Learners answer the question that was initially asked.

Objects can be sorted and classified (grouped) according to their similarities, such as colour, animals, plants. The more learners know about the properties of objects, and their similarities and differences, the more they are able to form different classification groups.



### Video 1

*Activity Guide: Term 1, Week 10, Day 4 #5-9 (pages 180-183)*

Watch the video of the class creating and analysing a pictograph to represent the weather.

Discuss how the teacher presents each of the steps in the lesson. Notice the types of questions she uses and how she reinforces the use of correct vocabulary.

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### Facilitator's notes

- ◆ Highlight the importance of using the same size pieces of paper, starting at the bottom and placing each piece of paper right against the previous one. Make sure there is enough height for the longest column.
- ◆ PPT: Photos of correctly placed pieces of paper in a pictograph as well as examples of incorrectly structured pictographs.  
After the activity, explain that:  
Pictographs – always organise the data from the bottom to the top.  
Construct a grid so that there is a one-to-one correspondence between each item in the grid. This makes it easier for learners to compare the quantities in each column.
- ◆ Reflect on the different steps of the Data Handling cycle the participants have gone through.
- ◆ Refer participants to **Activity 3**.



3. **Ava vuxokoxoko bya tinhlayo:** Vadyondzi va veketela na ku ava vuxokoxoko bya tinhlayo hi mitlawa hi ku ya hi xihlawulekisi lexi. Leswaku va hlamula swivutiso na ku boha hilaha ku faneleke ku endliwa hakona vuxokoxoko bya tinhlayo lebyi va byi hlengeleteke, swiboho swi fanele ku endliwa hi mayelana na hilaha swilo swi nga aviwaka hakona.
4. **Endla vuyimeri bya vuxokoxoko bya tinhlayo:** Vadyondzi va valanga tindlela to hambanahambana ta ku kombisa na ku humesela erivaleni vuxokoxoko lebyi va byi hlengeleteke.
5. **Xopaxopa vuxokoxoko bya tinhlayo:** Vadyondzi va hlamusela na ku ava vuxokoxoko bya tinhlayo lebyi tirhisiweke eka vuyimeri.
6. **Vika vuxokoxoko bya tinhlayo:** Vadyondzi va hlamula xivutiso lexi a xi vutisiwile ekusunguleni.

Michumu yi nga aviwa na ku ntlawahatiwa (pfaleriwa) hi ku ya hi ku fanana ka yona, swo tanihi muhlovo, swiharhi, swimilana. Loko vadyondzi va ri karhi va tiva swinene hi mayelana na swihlawulekisi swa michumu, na ku fanana na ku hambana ka yona, va ta kota ku tiva swinene ku vumba mitlawa ya ntlawahato yo hambanahambana.



### Vhidiyo ya 1

*Xiletelo xa Migingiriko: Kotara ya 1, Vhiki ra 10, Siku ra 4 #5-9(tipheji ta 180–183)*

Hlalelani vhidiyo ya tlilasi yi ri karhi yi tumbuluxa na ku xopaxopa phikitogirafu ku endla vuyimeri bya maxelo.

Kanelani hilaha mudyondzisi a andlalaka hakona rin'wana na rin'wana ra magoza lama nga eka dyondzotsongo leyi. Vonani mixaka ya swivutiso leswi a swi tirhisaka na hilaha a tiyisaka hakona ntirho wa ntivomarito wo lulama.

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### Tinotsi ta muhumelerisi

- ◆ Kombisa nkoka wa ku tirhisa swiphemu swa sayizi yo fana ya phepha, u sungula ehansi kutani u vekela xiphemu xin'wana na xin'wana xa phepha etlhelo ka ra nkarhi lowu nga hundza. Tiyisisa leswaku ku na vulehelahenhla byo enela bya kholomu leyo leha kutlula hinkwato.
- ◆ PPT: Swinepe swa swiphemu leswi veketeriweke hi ndlela leyi nga lulama swa phepha eka phikitogirafu xikan'we na tiphikitogirafu leti nga na xivumbeko lexi nga riki hi ndlela ya kahle. Endzhaku ka nghingiriko, hlamusela leswaku:  
Tiphikitogirafu – mikarhi hinkwayo vekela vuxokoxoko kusuka ehansi kuya ehenhla. Aka giridi ku endlela leswaku ku va na ku yelana ka xin'we-eka-xin'we exikarhi nchumu wun'wana na wun'wana eka giridi. Leswi swi olovisela vadyondzi ku fananisa mitalo leyi nga eka kholomu yin'wana na yin'wana.
- ◆ Ehleketisisa hi mayelana na magoza yo hambanahambana ya ndzhendzeleko wa Matirhiselo ya Vuxokoxoko bya Tinhlayo lowu vatekaxiave va teke hi le ka wona.
- ◆ Kongomisa vatekaxiave eka **Nghingiriko wa 3.**

This next activity will take you through the six stages of the Data Handling cycle.



### Activity 3

Take the following animal counters from the Maths Programme *Resource Kit*: three ducks, two chickens and one horse.

1. Consider this question: Are there more ducks or more chickens in the group?
2. Sort and collect data: Organise your animals into groups and then discuss the following with a partner:
  - ◆ Can you see if there are more ducks than chickens now?
  - ◆ How can you check?
3. Represent data: Turn to the grid on page 20. Place animals of the same kind one above the other in a column starting at the bottom of the grid.
4. Analyse and report on data: Look at your columns and discuss with a partner:
  - ◆ Are there more ducks or more chickens? How do you know?
  - ◆ Which column has more animals?
  - ◆ Which column has fewer animals?
  - ◆ Are there the same number of any kind of animal?

Refer to pages 184–187 of *Activity Guide: Term 1* and discuss how this activity is introduced to learners. Refer to pages 212–219 of the *Concept Guide* to read more about Data Handling. Notice the appropriate questions and vocabulary related to the teaching and learning of Data Handling in Grade R.

Nghingiriko lowu landzelaka wu ta ku yisa eka switeji swa tsevu swa ndzhendzeleko wa Matirhiselo ya Vuxokoxoko bya Tinhlayo.



### **Nghingiriko wa 3**

Humesa swihlayeri swa swiharhi leswi landzelaka eka *Khiti ya Swipfuno* ya Nongonoko wa Matematiki: masekwa manharhu, tihuku timbirhi na hanci yin'we.

1. Anakanya hi xivutiso lexi: Xana ku na masekwa yo tala kumbe tihuku to tala entlaweni lowu?
2. Ava na ku hlengeleta vuxokoxoko bya tinhlayo: Veketela swiharhi emitlaweni kutani endzhaku ka swona mi kana leswi landzelaka na mutirhisani:
  - ◆ Xana mi nga swi vona loko ku ri na masekwa yo tala kutlula tihuku sweswi?
  - ◆ Xana mi nga swi kambisisa njhani?
3. Endla vuyimeri bya vuxokoxoko bya tinhlayo: Pfula eka giridi leyi nga eka pheji ya 21. Vekela swiharhi swa muxaka wo fana xin'we ehenhla ka xin'wana eka kholomu u sungula ehansi ka giridi.
4. Xopaxopa kutani u vika hi mayelana na vuxokoxoko bya tinhlayo: Langutani eka tikholomu ta n'wina kutani mi kana na mutirhisani:
  - ◆ Xana ku na masekwa yo tala kumbe tihuku to tala? Xana u swi tiva njhani?
  - ◆ Xana i kholomu yihi yi nga na swiharhi swo tala?
  - ◆ Xana i kholomu yihi yi nga na swiharhi switsongo?
  - ◆ Xana ku na nhlayo yo fana ya muxaka wihi kumbe wihi wa xiharhi?

Kongomisa eka tipheji ta 184–187 ta *Xiletelo xa Migingiriko: Kotara ya 1* kutani mi kana hilaha nghingiriko lowu wu tivisiwaka hakona eka vadyondzi. Kongomisa eka tipheji ta 212–219 ta *Xiletelo xa Minogoti* ku hlaya swo tala hi mayelana na Matirhiselo ya Vuxokoxoko bya Tinhlayo. Vona swivutiso leswi nga fanela na ntivomarito lowu fambelanaka na madyondziselo na madyondzelo ya Matirhiselo ya Vuxokoxoko bya Tinhlayo eka Giredi ya V.



# Session 2: Numbers, Operations and Relationships

1 hour

## Facilitator's notes

- ◆ Explain that the focus of Term 2 Weeks 1 and 2 is Numbers, Operations and Relationships. This session aims to deepen participants' knowledge and understanding of number and how it is taught and learnt in Term 2.
- ◆ Refer participants to pages 114–123 of the *Concept Guide*.
- ◆ Have participants work in groups to complete **Activity 4**. Ask one person from each group to share their ideas.

The focus of Term 2 Weeks 1 and 2 is Numbers, Operations and Relationships.

## Term 2 Content overview: Numbers, Operations and Relationships



### Activity 4

Refer to the Numbers, Operations and Relationships Content Area on pages 114–123 of the *Concept Guide*.

1. What concepts are covered in Term 2?

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

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## Activity Guide: Term 2

### Facilitator's notes

- ◆ Hand out copies of *Activity Guide: Term 2* to all participants.
- ◆ Ask participants to look at the Contents page and pages 6–17 to see that the 'Introduction' in Term 2 is the same as in Term 1.
- ◆ Refer participants to 'Content overview: Term 2' (pages 18–21).
- ◆ Participants complete **Activity 5**.

# Sexini ya 2: Tinomboro, Tioparexini na Vuxaka

1 ya awara

## Tinotsi ta muhumerisi

- ◆ Hlamusela leswaku nkongomo wa Mavhiki ya 1 na 2 ya Kotara ya 2 i Tinomboro, Tioparexini na Vuxaka. Sexini leyi yi na a xikongomelo xa ku entisa vutivi na ntwisiso wa vatekaxiave wa nomboro na hilaha yi dyondzisiwaka na ku dyondziwa hakona eka Kotara ya 2.
- ◆ Kongomisa vatekaxiave eka tipheji ta 114–123 ta *Xiletelo xa Minongoti*.
- ◆ Endla leswaku vatekaxiave va tirha hi mitlawa ku hetisa **Nghingiriko wa 4**. Kombela munhu un'we kusuka eka ntlawa wun'wana na wun'wana ku avelana mianakanyo ya vona.

Nkongomo wa Mavhiki ya 1 na 2 ya Kotara ya 2 i Tinomboro, Tioparexini na Vuxaka.

## Nkatsakanyo wa Vundzeni wa Kotara ya 2: Tinomboro, Tioparexini na Vuxaka



### Nghingiriko wa 4

Kongomisa eka Xiyenge xa Vundzeni xa Tinomboro, Tioparexini na Vuxaka lexi nga eka tipheji ta 114–123 ta *Xiletelo xa Minongoti*.

1. Xana i minongoti yihi leyi angarheliwaka eka Kotara ya 2?

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

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## Xiletelo xa Migingiriko: Kotara ya 2

### Tinotsi ta muhumerisi

- ◆ Phakela vatekaxiave hinkwavo tikopi ta *Xiletelo xa Migingiriko: Kotara ya 2*.
- ◆ Kombela vatekaxiave ku languta eka pheji ya Leswi nga endzeni na tipheji ta 6–17 ku vona leswaku 'Manghenelo' lama nga eka Kotara ya 2 ya fana na lama nga eka Kotara ya 1.
- ◆ Kongomisa vatekaxiave eka 'Nkatsakanyo wa vundzeni: Kotara ya 2' (tipheji ta 18–21).
- ◆ Vatekaxiave va hetisa **Nghingiriko wa 5**.

*Activity Guide: Term 2* provides teachers with weekly suggestions for teaching and learning Mathematics.

Look at the Contents page and pages 6–17 of *Activity Guide: Term 2*. You will see that the ‘Introduction’ in Term 2 is the same as in Term 1.

In Activity 4 you identified the number concepts to be covered in Term 2. In Activity 5 you will make links between these concepts and the New knowledge for the first two weeks of *Activity Guide: Term 2*.



### Activity 5

Refer to ‘Content overview: Term 2’ (*Activity Guide: Term 2*, pages 18–21).

1. What new knowledge is introduced to learners in the Numbers, Operations and Relationships Content Area?

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2. Go back to Activity 4 and highlight or circle the concepts covered.

## Understanding numbers

### Facilitator’s notes

- ◆ Review the routine that the participants have used to introduce numbers 1, 2 and 3 to learners in their classes.
- ◆ Ask participants to reflect on their experiences in the classroom and to complete **Activity 6**.
- ◆ Explain that in Term 2 they will be focusing on numbers 4 and 5, using this same routine to introduce the numbers.
- ◆ Read through the whole class activities that focus on number 4 in Week 1: *Activity Guide: Term 2*: page 24 (Day 1 #4), page 26 (Day 2 #5), page 28 (Day 3 #4), page 30 (Day 4 #4 and Day 5 #4).

In Term 1, the numbers 1, 2 and 3 were taught. You used the same routine for each number taught, adding one more to the number each time a new number was introduced. In Term 2 Week 1, the focus is on the concept of number again. Learners are introduced to the number 4, using the same routine as for numbers 1, 2 and 3.



*Xiletelo xa Migingiriko: Kotara ya 2* xi nyika vadyondzisi swiringanyeto swa vhiki na vhiki swa ku dyondzisa Matematiki.

Languta eka pheji ya Leswi nga endzeni na tipheji ta 6–17 ta *Xiletelo xa Migingiriko: Kotara ya 2*. U ta swi vona leswaku 'Manghenelo' lama nga eka Kotara ya 2 ya fana na lama nga eka Kotara ya 1.

Eka Nghingiriko wa 4 u kume minongoti ya tinomboro leyi angarheliweke eka Kotara ya 2. Eka Nghingiriko wa 5 u ta endla vuxaka exikarhi ka minongoti na Vutivi byintshwa eka mavhiki mambirhi lamo sungula ya *Xiletelo xa Migingiriko: Kotara ya 2*.



### **Nghingiriko wa 5**

Kongomisa eka 'Nkatsakanyo wa vundzeni: Kotara ya 2' (*Xiletelo xa Migingiriko: Kotara ya 2*, tipheji ta 18–21).

1. Xana i vutivi byihi byintshwa byi tivisiweke eka vadyondzi eka Xiyenge xa Vundzeni xa Tinomboro, Tioparexini na Vuxaka?
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2. Tlhelela eka Nghingiriko wa 4 kutani u kombisa kumbe u tsondzela minongoti leyi angarheliweke.

## **Ku twisisa tinomboro**

### **Tinotsi ta muhumelerisi**

- ◆ Kambisisa maendlelo lama vatekaxiave va ma tirhiseke ku tivisa tinomboro ta 1, 2 na 3 eka vadyondzi lava nga etitlilasini ta vona.
- ◆ Kombela vatekaxiave ku ehleketisisa hi mayelana na mitokoto ya vona ekamareni ro dyondzela na ku hetisa **Nghingiriko wa 6**.
- ◆ Hlamusela leswaku eka Kotara ya 2 va ta kongomisa eka tinomboro ta 4 na 5, ku ri karhi ku tirhisiwa maendlelo yo fana ku tivisa tinomboro leti.
- ◆ Hlaya migingiriko ya tllasi hinkwayo leyi yi kongomisaka eka nomboro ya 4 leyi nga eka Vhiki ra 1: *Xiletelo xa Migingiriko: Kotara ya 2*: pheji ya 24 (Siku ra 1 #4), pheji ya 26 (Siku ra 2 #5), pheji ya 28 (Siku ra 3 #4), pheji ya 30 (Siku ra 4 #4 na Siku ra 5 #4).

Eka Kotara ya 1, tinomboro ta 1, 2 na 3 ti dyondzisiwile. U tirhise maendlelo yo fana eka nomboro yin'wana na yin'wana leyi dyonndzisiweke, u ri karhi u hlanganisa n'we ehenhla eka nomboro leyi nkarhi wun'wana na wun'wana loko nomboro yinsthwa yi tivisiwa. Eka Vhiki ra 1 ra Koatara ya 2, nkongomo wu le ka nongoti wa nomboro nakambe. Vadyondzi va tivisiwa eka nomboro ya 4, hi ku tirhisa maendlelo yo fana tanihi le ka tinomboro ta 1, 2 na 3.



## Activity 6

Refer to the whole class activities that focus on number 4 in Week 1: *Activity Guide: Term 2*: page 24 (Day 1 #4), page 26 (Day 2 #5), page 28 (Day 3 #4), page 30 (Day 4 #4 and Day 5 #4).

1. Discuss how the number '4' is introduced.

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2. Think about your own classroom practice and how this routine has been working so far. Complete the table.

Activity	What worked well?	What did not work so well?
Telling the story and building up the number frieze		
Dramatising the story		
Collecting objects for the maths area		
Matching objects to pictures, dot cards, number symbols and number words		
Using the <i>Poster Book</i>		



## Nghingiriko wa 6

Kongomisa eka migingiriko ya tllasi hinkwayo leyi yi kongomisaka eka nomboro ya 4 eka Vhiki ra 1: *Xiletelo xa Migingiriko: Kotara ya 2: pheji ya 24 (Siku ra 1 #4), pheji ya 26 (Siku ra 2 #5), pheji ya 28 (Siku ra 3 #4), pheji ya 30 (Siku ra 4 #4 na Siku ra 5 #4).*

1. Kanelani hilaha nomboro ya '4' yi tivisiwaka hakona.

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2. Ehleketa hi mayelana na endlelo ra wena n'wini ra kamara ro dyondzela na hilaha maendlelo lama ya tirheke hakona kutafika sweswi. Hetisa tafula leri.

Nghingiriko	Xana hi swihi leswi swi tirheke kahle swinene?	Xana hi swihi leswi swi nga tirhangiki kahle swinene?
Ku rungula xitori na ku aka xipendiwankhavisio xa tinomboro		
Ku endla ntlangu wa xitori.		
Ku hlengeleta michumu ya ndhawu ya matematiki		
Ku pananisa michumu eka swifaniso, makhadi ya mathonsi, mifungho ya tinomboro na mavito ya nomboro		
Ku tirhisa <i>Buku ya Tiphositara</i>		

## Maths vocabulary

### Facilitator's notes

- ◆ Discuss how the participants model using the correct maths vocabulary in the classroom.
- ◆ Point out that this is an important part of the **interaction principle**, and that by using it themselves, they encourage learners to use maths vocabulary.

Part of learning new concepts involves new language. Learners need the vocabulary to talk and think about maths concepts (**interaction principle**). You can encourage learners to use maths vocabulary by using it yourself when you speak to them about maths concepts and by rephrasing what they say into maths language.

## Money

### Facilitator's notes

- ◆ Discuss what learners in Grade R need to learn about money. Emphasise that the focus in Grade R is on developing an awareness of what South African coins look like, but not on the value of the coins.
- ◆ Invite participants to share the kinds of activities they provide in their Grade R classrooms to help learners understand the purpose of money in their everyday lives.
- ◆ After **Activity 7**, discuss the kinds of open-ended questions that teachers can ask to help learners learn the purpose of money such as:  
*What do we use money for?*  
*Do we always pay with money? How else could we pay for things that we buy?*

In Term 2 Week 2 learners are introduced to money. Learners in Grade R are developing an awareness about the features of money and they need opportunities to explore what real South African coins look like.

Activity 7 focuses on helping learners to recognise the similarities and differences between coins: their size, shape and the animals on the coins.



### Activity 7



1. What questions could you ask learners to help them recognise the different features of these coins?

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## Ntivotmarito wa matematiki

### Tinotsi ta muhumelerisi

- ◆ Kanelani hilaha vatekaxiave va letelaka hakona hi ku tirhisa ntivotmarito wa matematiki lowu nga lulama ekamareni ro dyondzela.
- ◆ Kombisa leswaku lexi i xiphemu xa nkoka xa **nawu wa n'wangulano**, na leswaku hi ku wu tirhisa hi voxe, va hlohlotela vadyondzi ku tirhisa ntivotmarito wa matematiki.

Xiphemu xa ku dyondza minongoti yintshwa xi khumba ku dyondza ririmi rintshwa. Vadyondzi va lava ntivoririmi ku vulavula na ku ehleketa hi mayelana na minongoti ya matematiki (**nawu wa n'wangulano**). U nga hlohlotela vadyondzi ku tirhisa ntivotmarito wa matematiki hi ku wu tirhisa hi wexe loko u vulavula na vona hi mayelana na minongoti ya matematiki na hi ku vumba hi vuntshwa leswi va swi vulaka swi va hi ririmi ra matematiki.

## Mali

### Tinotsi ta muhumelerisi

- ◆ Kanelani leswi vadyondzi eka Giredi ya V va faneleke ku swi dyondza hi mayelana na mali. Tshikelela leswaku nkongomo eka Giredi ya V wu le ka ku hlulukisa vulemuki bya leswi swingwece swa Afrika-Dzonga swi langutekisaka xiswona, kambe ku nga ri nkoka wa swingwece leswi.
- ◆ Rhamba vatekaxiave ku avelana mixaka ya migingiriko leyi va yi nyikaka etikamareni ta vona to dyondzela eka Giredi ya V ku pfuna vadyondzi ku twisisa xikongomelo xa mali evuton'wini bya vona bya masiku hinkwawo.
- ◆ Endzhaku ka **Nghingiriko wa 7**, kanelani mixaka ya swivutiso leswi nga na makumu yo pfuleka leswi vadyondzisi va nga swi vutisaka ku pfuna vadyondzi ku dyondza xikongomelo xa mali xo tanihi:  
*Xana hi swihi leswi mali hi yi tirhisaka swona?*  
*Xana mikarhi hinkwayo hi hakela hi mali? Xana hi tihitindlela tin'wana to karhi leti hi nga kotaka ku hakelela hatona swilo leswi hi swi xavaka?*

Eka Vhiki ra 2 ra Kotara ya 2 vadyondzi va tivisiwa mali. Vadyondzi eka Giredi ya V va le ku hlulukiseni ka vulemukisi hi mayelana na swihlawulekisi swa mali naswona va lava swivandlanene swa ku valanga leswi swingwece swa Afrika-Dzonga swa xiviri swi langutekisaka ku fana swona.

Nghingiriko wa 7 wu kongomisa eka ku pfuna vadyondzi ku lemuka ku fana na ku hambana exikarhi ka swingwece: sayizi ya swona, xivumbeko na swiharhi leswi nga eka swingwece leswi.



### Nghingiriko wa 7



1. Xana i swivutiso swihi u nga swi vutisaka vadyondzi ku va pfuna ku lemuka swihlawulekisi swo hambanahambana swa swingwece leswi?

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2. What new vocabulary will you introduce?

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### Facilitator's notes

- ◆ Refer participants to the whole class activities and small group activities on pages 40–51 of *Activity Guide: Term 2*.
- ◆ Have participants work in groups to complete **Activity 8**. Ask one person from each group to report back on their discussion.
- ◆ Draw attention to the money templates (*Activity Guide: Term 2*, pages 216–217). Ask for suggestions of how these could be used.

Learners first need to be able to identify and name coins before they are ready to understand their value.

Learners need to be exposed to the purpose of money. Teachers can help learners understand that money is used to buy things like food and clothes and to do different things like travelling by taxi or bus. Expose learners to money and its purpose by setting up a play-shop with pretend coins and notes and items that can be bought.

Refer to the whole class activities and small group activities that focus on money on pages 40–51 of *Activity Guide: Term 2*. In your group, complete Activity 8.



### Activity 8

1. What money concepts are being taught and learnt in the whole class activities?

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Recognising and matching South African coins, sorting according to colour and size.

2. How are learners encouraged to explore the purpose of money?

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The shopping table teaches learners that we pay money for items.

3. How does the teacher consolidate this new knowledge in the small group activities?

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Sorting and matching coins, drawing pictures of the coins.

2. Xana i ntivomarito wihi wuntshwa u nga ta wu tivisa?

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### Tinotsi ta muhumelerisi

- ◆ Kongomisa vatekaxiave eka migingiriko ya tlilasi hinkwayo na migingiriko ya ntlawa lowutsongo eka tipheji ta 40–51 ta *Xiletelo xa Migingiriko: Kotara ya 2*.
- ◆ Endla leswaku vatekaxiave va tirha hi mitlawa ku hetisa **Nghingiriko wa 8**. Kombela munhu un'we kusuka eka ntlawa wun'wana na wun'wana ku nyika xiviko hi mayelana na nkanelo wa vona.
- ◆ Kongomisa miehleketo eka tithempuleti ta mali (*Xiletelo xa Migingiriko: Kotara ya 2*, tipheji ta 216–217). Kombela swiringanyeto swa hilaha leswi swi nga tirhisiwaka hakona.

Xosungula vadyondzi va fanele ku kota ku kuma na ku vula mavito ya swingwece va nga si lunghekela ku twisisa nkoka wa swona.

Vadyondzi va fanele ku tivisiwa xikongomelo xa mali. Vadyondzisi va nga pfuna vadyondzi ku twisisa leswaku mali yi tirhisiwa ku xava swilo swo fana na swakudya na swiambalo na ku endla swilo swo hambanahambana swo fana na ku teka rendzo hi thekisi kumbe bazi. Tivisa vadyondzi mali na xikongomelo xa yona hi ku lulamisa vhengele ro tlanga hi swingwece swo encenyeta na timali ta phepha to encenyeta na michumu leyi yi nga xaviwaka.

Kongomisa eka migingiriko ya tlilasi hinkwayo na migingiriko ya mitlawa leyitsongo leyi yi kongomisaka eka mali eka tipheji ta 40–51 ta *Xiletelo xa Migingiriko: Kotara ya 2*. Entlaweni wa n'wina, hetisani Nghingiriko wa 8.



### Nghingiriko wa 8

1. Xana i minongoti yihi ya mali yi nga eku dyondzisiweni na ku dyondziwa eka migingiriko ya tlilasi hinkwayo?

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Ku lemuka na ku pananisa swingwece swa Afrika-Dzonga, ku ava hi ku ya hi muhlovo na sayizi.

2. Xana vadyondzi va hlohloteriwa njhani ku valanga xikongomelo xa mali?

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Tafula ra swixavisiwa ri dyondzisa vadyondzi leswaku hi hakela mali ku kuma michumu.

3. Xana mudyondzisi u tiyisisa njhani vutivi lebyintshwa eka migingiriko ya mitlawa leyitsongo?

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Ku ava na ku pananisa swingwece, ku dirowa swifaniso swa swingwece.

# Session 3: Space and Shape (Geometry)

1 hour

## Facilitator's notes

- ◆ This session extends the discussion on Space and Shape (Geometry) from Workshop 3 and should not take longer than the suggested time as this is not new knowledge.
- ◆ Explain that the focus of Term 2 Week 3 is Space and Shape (Geometry).
- ◆ Refer participants to pages 126–131 of the *Concept Guide*.
- ◆ Have participants work in groups to complete **Activity 9**. Ask one person from each group to share their ideas.

The focus of Term 2 Week 3 is Space and Shape (Geometry).

## Term 2 Content overview: Space and Shape (Geometry)

Refer to pages 126–131 of the *Concept Guide*.



### Activity 9

1. What Space and Shape (Geometry) concepts are covered in Term 2?

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

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## Triangles

### Facilitator's notes

- ◆ Refer participants to Day 2 #4 on page 58 of *Activity Guide: Term 2*.
- ◆ Ask participants to complete **Activity 10** in their small groups. Participants share their responses in the large group.
- ◆ Discuss the importance of giving learners opportunities to sort and group different shapes to help them learn about the properties of triangles, e.g. the number of sides, whether the sides are straight or curved, and the number of corners.

In Term 2 Week 3, learners continue their exploration of two-dimensional shapes as they describe, sort and compare them. In this session you will deepen your understanding of the properties of triangles.



# Sexini ya 3: Ndhawu na Xivumbeko (Jometiri)

1 ya awara

## Tinotsi ta muhumerisi

- ◆ Sexini leyi yi ndlandlamukisa nkanelo hi mayelana na Ndhawu na Xivumbeko (Jometiri) kusuka eka Ndzetelavutivi wa 3 naswona a yi fanelangi ku leha kutlula nkarhi lowu ringanyetiweke tanihileswi lebyi byi nga riki vutivi byintshwa.
- ◆ Hlamusela leswaku nkongomo wa Vhiki ra 3 ra Kotara ya 2 i Ndhawu na Xivumbeko (Jometiri).
- ◆ Kongomisa vatekaxiave eka tipheji ta 126–131 ta *Xiletelo xa Minongoti*.
- ◆ Endla leswaku vatekaxiave va tirha hi mitlawa ku hetisa **Nghingiriko wa 9**. Kombela munhu un'we kusuka eka ntlawa wun'wana na wun'wana ku avelana mianakanyo ya vona.

Nkongomo wa Vhiki ra 3 ra Kotara ya 2 i Ndhawu na Xivumbeko (Jometiri).

## Nkatsakanyo wa Vundzeni wa Kotara ya 2: Ndhawu na Xivumbeko (Jometiri)

Kongomisa eka tipheji ta 126–131 ta *Xiletelo xa Minongoti*.



### Nghingiriko wa 9

1. Xana i minongoti ya Ndhawu na Xivumbeko (Jometiri) yihi yi angarheliwaka eka Kotara ya 2?

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

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## Tinhlanharhu

### Tinotsi ta muhumerisi

- ◆ Kongomisa vatekaxiave eka Siku ra 2 #4 leri nga eka pheji ya 59 ya *Xiletelo xa Migingiriko: Kotara ya 2*.
- ◆ Kombela vatekaxiave ku hetisa **Nghingiriko wa 10** emitlaweni ya vona leyitsongo. Vatekaxiave va avelana tinhlamulo ta vona eka ntlawa lowukulu.
- ◆ Kanelani nkoka wa ku nyika vadyondzi nkarhi wa ku ava na ku ntlawahata swivumbeko swo hambanahambana ku va pfuna ku dyondza hi mayelana na swihlawulekisi swa tinhlanharhu, xik. nhlayo ya matlhelo, ku nga va matlhelo yo thwixama kumbe yo gombonyoka, na nhlayo ya tikhona.

Eka Vhiki ra 3 ra Kotara ya 2, vadyondzi va yisa emahlweni mbalango wa vona wa swivumbeko swa matlhelo mambirhi loko va ri karhi va swi hlamusela hi ku hlawulekisa, va swi hlamusela, ava na ku swi fananisa. Eka sexini leyi u ta entisa ntwisiso wa wena wa swihlawulekisi swa tinhlanharhu.

Refer to Day 2 #4 on page 58 of *Activity Guide: Term 2* and then complete Activity 10 in your group.



### Activity 10

'How is the triangle different to other shapes in the classroom?' What answers would you expect from your learners?

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It has three sides/lines/corners.

When learners are given opportunities to sort and group different shapes, they need to focus on the properties of the shapes to make their decisions, e.g. the number of sides, whether the sides are straight or curved and the number of corners.

### Facilitator's notes

- ◆ Explain that the Maths Programme uses stories to teach maths concepts in a meaningful way.
- ◆ Dramatise the story, *They pulled and they pulled*, from Week 3 (*Activity Guide: Term 2*, pages 62 and 198).
- ◆ Ask participants to complete **Activity 11** in their groups.
- ◆ As each group reports back, list the questions they suggest on flipchart paper.

Stories are a great way to introduce shape concepts to learners. Listen to the story, *They pulled and they pulled*, from Week 3 (*Activity Guide: Term 2*, pages 62 and 198) as told by your facilitator and then complete Activity 11 in your group.



### Activity 11

1. What questions could you ask learners to help them learn more about the properties of triangles?

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Examples:

What can you tell me about the lines/corners/points of this shape?

How do you know it is a triangle?

What is the same/different about the triangle and the square?

Kongomisa eka Siku ra 2 #4 eka pheji ya 59 ya *Xiletelo xa Migingiriko: Kotara ya 2* kutani endzhaku ka swona mi hetisa Nghingiriko wa 10 entlaweni wa n'wina.



### Nghingiriko wa 10

'Xana yinhlanharhu yi hambana njhani na swivumbeko swin'wana leswi nga ekamareni ro dyondzela?' Xana hi tihi tinhlamulo leti u nga ta ti langutela eka vadyondzi va wena?

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Yi na matlhelo manharhu/tilayini tinharhu/tikhona tinharhu.

Loko vadyondzi va nyikiwa nkarhi wa ku ava na ku ntlawahata swivumbeko swo hambanahambana, va fanele ku kongomisa eka swihlawulekisi swa swivumbeko ku teka swiboho swa vona, xik. nhlayo ya matlhelo, ku nga va matlhelo yo thwixama kumbe yo gombonyoka na nhlayo ya tikhona.

#### Tinotsi ta muhumerisi

- ◆ Hlamusela leswaku Nongonoko wa Matematiki wu tirhisa switori ku dyondzisa minongoti ya matematiki hi ndlela yo tivikana.
- ◆ Endlani ntlangu wa xitori lexi, *Va koka va kokile*, kusuka eka Vhiki ra 3 (*Xiletelo xa Migingiriko: Kotara ya 2*, tipheji 62 na 198).
- ◆ Kombela vatekaxiave ku hetisa **Nghingiriko wa 11** emitlaweni ya vona.
- ◆ Loko ntlawa wun'wana na wun'wana wu ri karhi wu nyika xiviko, xaxameta swivutiso leswi va swi ringanyetaka eka phepha ra chati yo pfula.

Switori i ndlela ya kahle swinene ku tivisa minongoti ya swivumbeko eka vadyondzi. Yingiselani xitori lexi, *Va koka va kokile*, kusuka eka Nghingiriko wa 3 (*Xiletelo xa Migingiriko: Kotara ya 2*, tipheji ta 62 na 198) tanihilaha xi runguriwaka hakona hi muhumerisi kutani endzhaku ka swona mi hetisa Nghingiriko wa 11 entlaweni wa n'wina.



### Nghingiriko wa 11

1. Xana i swivutisi swihi leswi u nga swi vutisaka vadyondzi ku va pfuna ku dyondza swo tala hi mayelana na swihlawulekisi swa tinhlhanharhu?

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Swikombiso:

Xana u nga ndzi byela yini hi mayelana na tilayini/tikhona na mitontswo ya xivumbeko lexi?

Xana u swi tiva njhani leswaku leyi i yinhlanharhu?

Xana hi kwihi ku fana/ku hambana hi mayelana na yinhlanharhu na xikwere?

2. Are most of these questions open-ended or closed questions?

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**Note:** Use *Activity Guide: Term 1* and *Term 2* to help you plan for teaching these weeks. The ideas and activity suggestions are a guide and resource. Set up the maths area with the content focus for each week.

2. Xana vunyingi bya swivutiso i swivutiso leswi nga na makumu yo pfuleka kumbe i swivutiso swo pfaleka?
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**Lemuka:** Tirhisa *Xiletelo xa Migingiriko: Kotara ya 1* na *Kotara ya 2* ku ku pfuna ku kunguhatela ku dyondzisa mavhiki lama. Mianakanyo na swiringanyeto swa migingiriko i xiletelo na xipfuno. Lulamisa ndhawu ya matematiki leyi nga na nkongomo wa vundzeni wa vhiki rin'wana na rin'wana.

# Session 4: Planning for teaching

2 hours

## Facilitator's notes

- ◆ Refer participants to Appendix A: Term 1 and 2 Weekly Content Summary: Term 1 (Week 10) and Term 2 (Weeks 1–3).
- ◆ Read the whole class, teacher-guided and workstation activities sections.
- ◆ Have participants work in groups to complete **Activity 12**.



## Video 2

*Activity Guide: Term 2, Week 1 (page 32)*

Watch the video of the teacher-guided activity. Observe how the teacher uses questions to prompt and guide the learners during the activity.

Discuss how you have managed your teacher-guided activities in Term 1.

Have you faced any challenges? If so, what strategies have you used to resolve them?

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## Terms 1 and 2 Content Summary (Term 1 (Weeks 10) and Term 2 (Weeks 1–3))

Appendix A: Term 1 and 2 Weekly Content Summary: Term 1 (Week 10) and Term 2 (Weeks 1–3) outlines the main Content Area Focus for each week, the topics to be covered, the new knowledge and practise focus for each week, and suggested activities for whole class, teacher-guided and independent group work for the week.



## Activity 12

Look at Appendix A: Term 1 and 2 Weekly Content Summary: Term 1 (Week 10) and Term 2 (Weeks 1–3). Answer the questions.

# Sexini ya 4: Nkunguhato wa ku dyondzisa

2 wa tiawara

## Tinotsi ta muhumerisi

- ◆ Kongomisa vatekaxiave eka Xiengetelwa xa A: Nkomiso wa Vundzeni wa Vhiki na Vhiki wa Kotara ya 1 na 2: Kotara ya 1 Vhiki ra 10) na Kotara ya 2 (Mavhiki ya 1–3).
- ◆ Hlaya swiyenge swa migingiriko ya tlilasi hinkwayo, swa migingiriko leyi leteriwaka hi mudyondzisi na swa migingiriko ya le ka xitichi xo tirhela.
- ◆ Endla leswaku vatekaxiave va tirha hi mitlawa ku hetisa **Nghingiriko wa 12**.



## Vhidiyo ya 2

*Xiletelo xa Migingiriko: Kotara ya 2, Vhiki ra 1 (pheji ya 33)*

Hlalelani vhidiyo ya nghingiriko lowu leteriwaka hi mudyondzisi. Xiyaxiyani hilaha mudyondzisi a tirhisaka swivutiso hakona ku tsundzuxa na ku letela vadyondzi hi nkarhi wa nghingiriko lowu.

Kanelani hilaha a lawuleke hakona migingiriko leyi leteriwaka hi mudyondzisi leyi nga eka Kotara ya 1.

Xana u hlanganile na mitlhonthlo yihi kumbe yihi? Loko swi ri tano, xana i maqhinga wahi lama u ma tirhiseke ku yi ololoxa?

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## Nkomiso wa Vundzeni wa Kotara ya 1 na 2 (Kotara ya 1 (Vhiki ra 10) na Kotara ya 2 (Mavhiki ya 1–3))

Xiengetelwa xa A: Nkomiso wa Vundzeni wa Vhiki na Vhiki wa Kotara ya 1 na 2: Kotara ya 1 (Vhiki ra 10) na Kotara ya 2 (Mavhiki ya 1–3) wu katsakanya Nkongomokulu wa Xiyenge xa Vundzeni wa vhiki rin'wana na rin'wana, tinhlokomhaka leti angariheliwaka, vutivi byintshwa na nkongomo wa titoloveti wa vhiki rin'wana na rin'wana, na migingiriko leyi ringanyetiwaka ya tlilasi hinkwayo, ntirho lowu leteriwaka hi mudyondzisi na ntirho wa ntlawa lowu tshunxekeke wa vhiki.



## Nghingiriko wa 12

Languta eka Xiengetelwa xa A: Nkomiso wa Vundzeni wa Vhiki na Vhiki wa Kotara ya 1 na 2: Kotara ya 1 (Vhiki ra 10) na Kotara ya 2 (Mavhiki ya 1–3). Hlamula swivutiso leswi.

Questions	Week 10 Term 1	Week 1 Term 2	Week 2 Term 2	Week 3 Term 2
What is the Content Area Focus for the week?	Data Handling	Numbers, Operations and Relationships	Numbers, Operations and Relationships	Space and Shape (Geometry)
What are the key concepts that learners will be learning?	Collecting, sorting and classifying data Representing data Reporting on data	Number symbols and number words Ordering numbers	Money Ordinal numbers Equal groups Counting objects	Position, direction and views 2-D shapes
What new knowledge is introduced?	Collect, sort and represent collections of objects Discuss and report on sorted collections of objects	More than, fewer than, equal to Number 4	South African coins Ordinal numbers first to fourth Making equal groups the same to 4 Counting objects 1-6	Oral counting 1-15 Counting objects 1-7 Position: underneath
What skills are being practised?	Oral counting 1-10 Counting objects 1-5 Sequencing numbers 1-3 Number concept 1-3 Before and after Copying patterns Problem solving	Oral counting 1-10 and 5-1 Counting objects 1-5 Sequencing numbers 1-3 Reinforcing number concept 1-3	Oral counting 1-10 and 5-1 Counting objects 1-5 Sequencing numbers 1-4 Reinforcing number concept 1-4 Biggest to smallest, smallest to biggest	Position: next to, between, in front of, behind, on top Direction: forwards, backwards Number concept 1-4 Sequencing numbers 1-4 Count backwards 5-1 Shapes: circle, square, triangle

### Activity Guide: Term 1: Week 10 and Activity Guide: Term 2: Weeks 1-3

Refer to Week 10 in *Activity Guide: Term 1* and Weeks 1, 2 and 3 in *Activity Guide: Term 2*. Complete Activity 13 in your group.



<b>Swivutiso</b>	<b>Vhiki ra 10 ra Kotara ya 1</b>	<b>Vhiki ra 1 ra Kotara ya 2</b>	<b>Vhiki ra 2 ra Kotara ya 2</b>	<b>Vhiki ra 3 ra Kotara ya 2</b>
Xana hi wihi Nkongomo wa Xiyenge xa Vundzeni wa vhiki leri?	Matirhiselo ya Vuxokoxoko bya Tinhlayo	Tinomboro, Tioparexini na Vuxaka	Tinomboro, Tioparexini na Vuxaka	Ndhawu na Xivumbeko (Jometiri)
Xana hi yihi minongotikulu leyi vadyondzi va nga ta va va ri eku yi dyondzeni?	Ku hlengeleta, ku ava na ku ntlawahata vuxokoxoko bya tinhlayo Ku endla vuyimeri bya vuxokoxoko bya tinhlayo: Ku vika hi mayelana na vuxokoxoko bya tinhlayo	Mifungo ya tinomboro na marito ya tinomboro Ku landzelelanisa tinomboro	Mali Tinomboro ta odinali Mitlawa yo ringana Ku hlayela michumu	Xiyimo, tlhelo na mavonelo Swivumbeko swa 2-D
Xana i vutivi byintshwa muni byi tivisiwaka?	Hlengeleta, ku ava kutani endla vuyimeri bya mihlengelo michumu Kanela na ku vika hi mihlengelo leyi aviweke ya michumu	Tala kutlula, ntsongo kutlula, ringana na Nomboro ya 4	Swingwece swa Afrika-Dzonga Tinomboro ta odinali vun'we kufika eka vumune Ku endla mitlawa yo ringana yi fana kufika eka 4 Ku hlayela michumu 1-6	Ku hlayela ka swanomu 1-15 Ku hlayela michumu 1-7 Xiyimo: ehansi ka
Xana i swikili swihi swi vaka swi titolovetiwa?	Ku hlayela ka swanomu 1-10 Ku hlayela michumu 1-5 Ku longoloxela tinomboro 1-3 Ku tiyisisa nongoti wa tinomboro ta 1-3 Emahlweni na endzhaku Ku kopunula tipatironi Ku ololoxa swiphio	Ku hlayela ka swanomu 10 na 5-1. Ku hlayela michumu 1-5 Ku longoloxela tinomboro 1-3 Ku tiyisisa nongoti wa tinomboro 1-3	Ku hlayela ka swanomu 1-10 na 5-1 Ku hlayela michumu 1-5 Ku longoloxela tinomboro 1-4 Ku tiyisisa nongoti wa tinomboro 1-4 Nkulukumba kutlula hinkwaswo kufika eka ntsongo kutlula hinkwaswo, ntsongo kutlula hinkwaswo kufika eka nkulukumba kutlula hinkwaswo	Xiyimo: ekusuhi na, exikarhi ka, emahlweni ka, endzhaku, ehlenla Tlhelo: emahlweni, endzhaku Nongoti wa tinomboro 1-4 Ku longoloxela tinomboro 1-4 Hlayela kuya endzhaku: 5-1 Swivumbeko: xirhendzevutana, xikwere, yinlanharhu

### **Xiletelo xa Migingiriko: Kotara ya 1, Vhiki ra 10 na Xiletelo xa Migingiriko: Kotara ya 2: Mavhiki ya 1-3**

Kongomisa eka Vhiki ra 10 eka *Xiletelo xa Migingiriko: Kotara ya 1* na Mavhiki ya 1, 2 na 3 eka *Xiletelo xa Migingiriko: Kotara ya 2*. Hetisani Nghingiriko wa 13 eka ntlawa wa n'wina.



### Activity 13

Find Week 10 in *Activity Guide: Term 1*. Answer the questions.

1. What is the Content Area Focus for the week?
2. What topics and new knowledge are taught in this week?
3. How does the 'Practise' content link to the previous week?
4. What do you need to get ready before teaching this week?
5. Read the whole class activities and small group activities.
6. Discuss in your small group how you will plan and organise your class for this week of teaching.
7. In your small group refer back to Week 10 in Appendix A. Match the whole class activities and small group activities in Week 10 of *Activity Guide: Term 1* to the Weekly Content Summary in Appendix A.



### Activity 14

Find Weeks 1, 2 and 3 in *Activity Guide: Term 2*. Answer the questions.

1. What is the Content Area Focus for each week?
2. What topics and new knowledge are taught in each week?
3. How does the 'Practise' content link to the previous week?
4. What do you need to get ready before teaching each week?
5. Read the whole class activities and small group activities.
6. Discuss in your small group how you will plan and organise your class for these three weeks of teaching.
7. In your small group refer back to Weeks 1–3 in Appendix A. Match the whole class activities and small group activities in Weeks 1–3 of *Activity Guide: Term 2* to the Weekly Content Summary in Appendix A.



Remember that the eye in the shaded block at the end of the teacher-guided activities (**Check that learners are able to**) 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.

Make a mental note of each learner and once the learners have left for the day, write down your observations in a dedicated observation book that has space for each learner's notes.



### Nghingiriko wa 13

Kuma Vhiki ra 10 eka *Xiletelo xa Migingiriko: Kotara ya 1*. Hlamula swivutiso leswi.

1. Xana hi wihi Nkongomo wa Xiyenge xa Vundzeni wa vhiki leri?
2. Xana hi tihi tinhlokomhaka na vutivi byintshwa byihi byi dyondzisiwaka eka vhiki leri?
3. Xana vundzeni bya 'Titoloveti' byi xakelanisa njhani na vhiki leri nga hundza?
4. Xana hi swihi leswi u faneleke ku swi endla ku lungheka u nga si dyondzisa vhiki leri?
5. Hlaya migingiriko ya tlilasi hinkwayo na migingiriko ya ntlawa lowutsongo.
6. Kanelani entlaweni wa n'wina lowutsongo hilaha mi nga ta kunguhata na ku lulamisa tlilasi ya n'wina hakona eka ku dyondzisa ka vhiki leri.
7. Entlaweni wa n'wina lowutsongo kongomisani nakambe eka Vhiki ra 10 eka Xiengetelwa xa A. Pananisani migingiriko ya tlilasi hinkwayo na migingiriko ya ntlawa lowutsongo leyi nga eka Vhiki ra 10 ra *Xiletelo xa Migingiriko: Kotara ya 1* eka Nkomiso wa Vundzeni wa Vhiki na Vhiki lowu nga eka Xiengetelwa xa A.



### Nghingiriko wa 14

Kuma Mavhiki ya 1, 2 na 3 eka *Xiletelo xa Migingiriko: Kotara ya 2*. Hlamula swivutiso leswi.

1. Xana hi wihi Nkongomo wa Xiyenge xa Vundzeni wa vhiki rin'wana na rin'wana?
2. Xana hi tihi tinhlokomhaka na vutivi byintshwa byihi byi dyondzisiwaka eka vhiki rin'wana na rin'wana?
3. Xana vundzeni bya 'Titoloveti' byi xakelanisa njhani na vhiki leri nga hundza?
4. Xana hi swihi leswi u faneleke ku swi endla ku lungheka u nga si dyondzisa eka vhiki rin'wana na rin'wana?
5. Hlaya migingiriko ya tlilasi hinkwayo na migingiriko ya ntlawa lowutsongo.
6. Kanelani entlaweni wa n'wina lowutsongo hilaha mi nga ta kunguhata na ku lulamisa tlilasi ya n'wina hakona eka mavhiki lamanharhu ya ku dyondzisa.
7. Entlaweni wa n'wina lowutsongo kongomisani nakambe eka Mavhiki ya 1-3 eka Xiengetelwa xa A. Pananisani migingiriko ya tlilasi hinkwayo na migingiriko ya ntlawa lowutsongo leyi nga eka Mavhiki ya 1-3 ya *Xiletelo xa Migingiriko: Kotara ya 2* eka Nkomiso wa Vundzeni wa Vhiki na Vhiki lowu nga eka Xiengetelwa xa A.



Tsundzukani leswaku mfungho wa tihlo lowu nga eka buloko leyi dzwihatiweke emakumu ka migingiriko leyi leteriwaka hi mudyondzisi (**Kamba leswaku vadyondzi va kota ku**) wu hi tsundzuxa leswaku hi fanele ku xiyaxiya vadyondzi loko va ri eku tirheni, naswona hi fanele ku yingisela hi vukheta loko va ri eku vulavuleni na hina na tintangha ta vona.

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

## Closing activities

### Facilitator's notes

- ◆ **Lessons learnt:** Ask participants to think about what they have learnt during the workshop and to complete **Activity 15** individually.
- ◆ **Take back to school task:** Read through this task. Ask if there is anything that is not clear and that requires more explanation. Draw attention to how observation and assessment records and systems must be in place by this stage of the year. Ask how participants are filing these. Ask for examples to be brought to Workshop 5.
- ◆ **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.



### Activity 15

**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

## Migingiriko yo pfala

### Tinotsi ta muhumerisi

- ◆ **Tidyondzotsongo leti dyondziweke:** Kombela vatekaxiave ku ehleketa hi mayelana na leswi va swi dyondzeke hi nkarhi wa ndzetelavutivi na ku hetisa **Nghingiriko wa 15** hi un'weun'we.
- ◆ **Xintirhwana xo tlhelela na xona exikolweni:** Hlaya xintirhwana lexi. Vutisa loko ku ri na xihhi kumbe xihhi lexi xi nga riki erivaleni naswona xi lava ku hlamuseriwa hi vutalo swinene. Kongomisa miehleketo eka hilaha tirhekodo na tisisiteme ta mixiyaxiyo na makambeleso swi bohekaka ku va hakona eka nkarhi lowu wa lembe. Vutisa hilaha vatekaxiave va tatisaka leswi hakona. Kombela leswaku swikombiso swi tisiwa eka Ndzetelavutivi wa 5.
- ◆ **Nkambelo:** Phakela tikopi ta Fomo ya Nkambelo wa Ndzetelavutivi kutani u endla leswaku vatekaxiave va tatisa fomo leyi.
- ◆ **Ndzetelavutivi lowu landzelaka:** Nyika masiku ya ndzetelavutivi lowu landzelaka kutani u pfala ndzetelavutivi lowu.



### Nghingiriko wa 15

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

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



### **Take back to school task**

1. Continue with your observations to build up a complete picture of each learner.
2. During the teacher-guided activities complete the *Check that learners are able to* section (after the teacher-guided activity in each week) for each learner being observed.
3. Make a copy of the Exemplar Record of Continuous Assessments in *Activity Guide: Term 1* (pages 190–193).
4. Use the information collected in your observation notes to date and record each learner's development. (Remember that patterns of development need to be recorded over time.)
5. Use *Activity Guide: Term 1* (Week 10) and *Activity Guide: Term 2* (Weeks 1–3) to plan and implement Term 1 Week 10 and Term 2 Weeks 1–3 of the Maths Programme, including creating a maths area with a focus on the concept for each week.
6. Write an evaluation of what worked well, what did not work so well and what you could do differently to improve teaching and learning. Bring your evaluation report to the next workshop.

### **Evaluation**

Complete the Evaluation Form.



### **Xintirhwana xo tthelela na xona exikolweni**

1. Yana emahlweni na mixiyaxiyo leyi ku aka xifaniso xo hetiseka xa mudyondzi un'wana na un'wana.
2. Hi nkarhi wa migingiriko leyi leteriwaka hi mudyondzisi hetisa xiyenge xa *Kamba leswaku vadyondzi va kota ku* (endzhaku ka nghingiriko lowu leteriwaka hi mudyondzisi eka vhiki rin'wana na rin'wana) xa mudyondzi un'wana na un'wana loyi a nga eku xiyaxiyiwani.
3. Endla Kopi ya Rhekodo ya Xikombiso ya Makambeleo lama Yaka Emahlweni eka *Xiletelo xa Migingiriko: Kotara ya 1* (tipheji ta 190–193).
4. Tirhisa vuxokoxoko lebyi hlengetiweke eka tinotsi ta wena ta mixiyaxiyo kutafika sweswi kutani u rhekoda nhluvuko wa mudyondzi un'wana na un'wana. (Tsundzuka leswaku tipatironi ta nhluvuko ti fanele ku rhekodiwa hi ku famba ka nkarhi.)
5. Tirhisa *Xiletelo xa Migingiriko: Kotara ya 1* (Vhiki ra 10) na *Xiletelo xa Migingiriko: Kotara ya 2* (Mavhiki ya 1–3) ku kunguhata na ku tirhisa Vhiki ra 10 ra Kotara ya 1 na Mavhiki ya 1–3 ya Kotara ya 2 ya Nongonoko wa Matematiki, ku katsa na ku tumbuluxa ndhawu ya matematiki leyi nga na nkongomo eka nongoti wa vhiki rin'wana na rin'wana.
6. Tsala nkambelo wa leswi swi tirheke kahle swinene, leswi swi nga tirhangiki kahle swinene na leswi u nga ta swi endla hi ku hambana ku antswisa madyondziselo na madyondzelo. Tana na xiviko xa nkambelo xa wena eka ndzetelavutivi lowu landzelaka.

### **Nkambelo**

Tatisa Fomo leya Nkambelo.

## APPENDIX A: TERM 1 AND 2 WEEKLY CONTENT SUMMARY: TERM 1 (WEEK 10) AND TERM 2 (WEEKS 1–3)

### Term 1: Activity Plan

Week 10				
<b>CONTENT AREA:</b> DATA HANDLING				
<b>TOPIC:</b> Collect and sort objects, represent sorted collections of objects, discuss and report on sorted collections of objects				
<b>INTRODUCE NEW KNOWLEDGE:</b> Collect, sort and represent collections of objects (weather); discuss and report on sorted collections; create own pattern				
<b>PRACTISE:</b> Oral counting 1–10, counting backwards from 5, sequencing numbers 1–3, counting objects 1–5, number concept 1–3, copy patterns, problem-solving techniques				
Whole class activities		Teacher-guided activity	Workstation activities	
<b>Day 1</b>	Sorting and classifying, waste items.	Oral counting. Touch and count – one-to-one correspondence. Sorting and classifying activities – animals. Representing and interpreting data.	<b>Activity 1</b>	Sorting waste.
<b>Day 2</b>	Data collection, sorting clothing items.		<b>Activity 2</b>	Sorting colours.
<b>Day 3</b>	Sorting and classifying, group game.		<b>Activity 3</b>	Sorting tray, natural items.
<b>Day 4</b>	Use data collected from the weather discussions, represent and analyse how many days were sunny, raining etc.		<b>Activity 4</b>	Copy pattern using concrete objects and then create own pattern.
<b>Day 5</b>	Weather data collection, representing and analysing.			

### Term 2: Activity Plan

Week 1				
<b>CONTENT AREA:</b> NUMBERS, OPERATIONS AND RELATIONSHIPS				
<b>TOPIC:</b> Recognise number symbols and number words, describe, order and compare numbers				
<b>INTRODUCE NEW KNOWLEDGE:</b> More than/fewer than/equal to, introduce number 4				
<b>PRACTISE:</b> Oral counting 1–10, sequencing numbers 1–3, counting objects 1–5, reinforce number concept 1–3				
Whole class activities		Teacher-guided activity	Workstation activities	
<b>Day 1</b>	Introduce 4 (giraffes).	Counting objects 1–5. Matching objects to number dot, symbol and word cards 1–4. Arrange counters to match dot cards. Practise more than, fewer than, equal. Write number 4 (as with numbers 1 to 3).	<b>Activity 1</b>	Playdough mat 4 (as for previous numbers).
<b>Day 2</b>	Introduce more than/less than/equal to, maths table.		<b>Activity 2</b>	Number ordering puzzle activity to 4 (forms a picture).
<b>Day 3</b>	Reinforce 1–4, dot cards and ordering.		<b>Activity 3</b>	Matching number symbols, words and concrete objects to 4.
<b>Day 4</b>	Reinforce 1–4, Unifix blocks and hoops.		<b>Activity 4</b>	Number puzzles (no number words).
<b>Day 5</b>	Reinforce number 4, Poster 6.			



**XIENGETELWA XA A: KOTARA YA 1 NA 2 NKOMISO WA VUNDZENI WA VHIKI NA VHIKI: KOTARA YA 1 (VHIKI RA 10) NA KOTARA YA 2 (MAVHIKI YA 1-3)**

**Kotara ya 1: Kungu ra Migingiriko**

Vhiki ra 10				
<b>NKONGOMO WA XIYENGE XA VUNDZENI:</b> MATIRHISELO YA VUXOKOXOKO BYA TINHLAYO				
<b>NHLOKOMHAKA:</b> Hlengelela kutani u ava michumu, endla vuyimeri bya mihlengelo leyi aviweke ya michumu, kanelani na ku vika hi mihlengelo leyi aviweke ya michumu				
<b>TIVISA VUTIVI BYINTSHWA:</b> Hlengelela, ava kutani u endla vuyimeri bya mihlengelo ya michumu (maxelo); kanelani na ku vika hi mihlengelo leyi aviweke ya michumu; tumbuluxa patironi ya wena n'wini				
<b>TITOLOVETI:</b> Ku hlayela ka swanomu 1-10, ku hlayela kuya endzhaku kusuka eka 5, ku longoloxela tinomboro 1-3, ku hlayela michumu 1-5, nongoti wa tinomboro 1-3, kopunula tipatironi, tithekiniki ta ku ololoxa swiphiqu				
Migingiriko ya tllasi hinkwayo		Nghingiriko lowu leteriwaka hi mudyondzisi		Migingiriko ya le ka xitichi xo tirhela
<b>Siku ra 1</b>	Ku ava na ku ntlawahata, michumu ya thyaka.	Ku hlayela ka swanomu.		<b>Nghingiriko wa 1</b> Ku ava thyaka.
<b>Siku ra 2</b>	Nhlengeleto wa vuxokoxoko bya tinhlayo, ku ava swiambalo.	Khumba kutani u hlayela - ku yelana ka xin'we-eka-xin'we.		<b>Nghingiriko wa 2</b> Ku ava hi muhlovo.
<b>Siku ra 3</b>	Ku ava na ku ntlawahata ntlawa wa ntlangu	Migingiriko ya ku ava na ku ntlawahata - swiharhi.		<b>Nghingiriko wa 3</b> Thireyi yo ava, michumu ya ntumbuluko.
<b>Siku ra 4</b>	Tirhisa vuxokoxoko bya tinhlayo lebyi hlengeleliweke kusuka eka mikanelo ya maxelo, endla vuyimeri na ku xopaxopa leswaku i masiku mangani a ku ri na mumu, a ku na mpfula, sw.sw.	Ku endla vuyimeri na ku humesa nhlamuselo ya vuxokoxoko bya tinhlayo.		<b>Nghingiriko wa 4</b> Kopunula patironi hi ku tirhisa michumu yo khomeka kutani endzhaku ka swona u tumbuluxa patironi ya wena n'wini.
<b>Siku ra 5</b>	Nhlengeleto wa vuxokoxoko bya tinhlayo bya maxelo, ku endla vuyimeri na ku xopaxopa.			

**Kotara ya 2: Kungu ra Migingiriko**

Vhiki ra 1				
<b>XIYENGE XA VUNDZENI:</b> TINOMBORO, TIOPAREXINI NA VUXAKA				
<b>NHLOKOMHAKA:</b> Lemuka mifungo ya tinomboro na marito ya tinomboro, hlamusela, longoloxa na ku fananisa tinomboro				
<b>TIVISA VVUTIVI BYINTSHWA:</b> Tala kutlula/ntsongo kutlula/ringana na, tivisa nomboro ya 4				
<b>TITOLOVETI:</b> Ku hlayela ka swanomu 1-10, longoloxela tinomboro 1-3, hlayela michumu 1-5, tiyisisa nongoti wa tinomboro 1-3				
Migingiriko ya tllasi hinkwayo		Nghingiriko lowu leteriwaka hi mudyondzisi		Migingiriko ya le ka xitichi xo tirhela
<b>Siku ra 1</b>	Tivisa 4 (tinhutlwa).	Ku hlayela michumu 1-5		<b>Nghingiriko wa 1</b> Metete wa vumba byo tlangisa 4 (tanihi le ka tinomboro ta nkarhi lowu nga hundza).
<b>Siku ra 2</b>	Tivisa tala kutlula/ntsongo kutlula, hansi kutlula/ringana na, tafula ra matematiki.	Ku pananisa michumu eka makhadi ya mathonsi ya tinomboro ta 1-4, makhadi ya mifungo ya nomboro ya 1-4 na makhadi ya mavito ya nomboro ya 1-4.		<b>Nghingiriko wa 2</b> Nghingiriko wa xiphazamiso xa ku landzelelanisa tinomboro kufika eka 4 (wu vumba xifaniso).
<b>Siku ra 3</b>	Tiyisisa 1-4, makhadi ya mathonsi na ku longoloxa.	Veketela swihlayeri ku panana na makhadi ya mathonsi.		<b>Nghingiriko wa 3</b> Ku pananisa mifungo ya tinomboro, marito ya tinomboro na michumu yo khomeka kufika eka 4.
<b>Siku ra 4</b>	Tiyisisa 1-4, tibuloko ta Unifix na tihupu.	Titoloveti tala kutlula, ntsongo kutlula, ringana na.		<b>Nghingiriko wa 4</b> Swiphazamiso swa tinomboro (a ku na mavito ya tinomboro).
<b>Siku ra 5</b>	Tiyisisa nomboro ya 4, Phositara ya 6.	Tsala nomboro ya 4 (tanihi tinomboro ta 1 kufika eka 3).		

Week 2				
<b>CONTENT AREA:</b> NUMBERS, OPERATIONS AND RELATIONSHIPS				
<b>TOPIC:</b> Money: develop an awareness of South African coins				
<b>INTRODUCE NEW KNOWLEDGE:</b> South African coins, ordinal numbers first to fourth, making equal groups the same to 4, counting objects 1–6				
<b>PRACTISE:</b> Oral counting 1–10 and 5–1, sequencing numbers 1–4, reinforce number concept 1–4, biggest to smallest/smallest to biggest				
Whole class activities		Teacher-guided activity		Workstation activities
<b>Day 1</b>	Introduce South African coins (cents and rands), Poster 7.	Number concept 1–4. Estimation.		<b>Activity 1</b> Make own coin (give a circle shape). <b>Activity 2</b> Number caterpillar – sequencing numbers 1–4. <b>Activity 3</b> Draw or paste objects to match numbers 1–4. <b>Activity 4</b> Posting activity using number and colour 1–4.
<b>Day 2</b>	Maths table – shopping, ordinal numbers first to fourth.	Shake and break with 4. South African coins – match coins to ‘goods in shop’.		
<b>Day 3</b>	Matching number/dot cards and number words.	Use cut-out coins; sorting, ordering, matching.		
<b>Day 4</b>	Ordering number 1–4, shopping.	Make equal groups to 4 – using counters.		
<b>Day 5</b>	Problem solving up to 4 (Poster 7).			

Week 3				
<b>CONTENT AREA:</b> SPACE AND SHAPE (GEOMETRY)				
<b>TOPIC:</b> Position, orientation and views; describes sorts and compares 2-D shapes				
<b>INTRODUCE NEW KNOWLEDGE:</b> Position: underneath, oral counting 1–15, counting objects 1–7, orientation and views				
<b>PRACTISE:</b> Oral counting 1–10 and 5–1; sequencing numbers 1–4; reinforce number concept 1–4; count backwards 5–1; shapes: circle, square, triangle; position: in front of, behind, on top, between, next to; direction: forwards, backwards				
Whole class activities		Teacher-guided activity		Workstation activities
<b>Day 1</b>	Positions, shape game.	Counting.		<b>Activity 1</b> Colour triangles. <b>Activity 2</b> Carrot activity (cut out triangles and add correct number of leaves). <b>Activity 3</b> Sorting tray – according to colour, shape <b>or</b> size (one attribute). <b>Activity 4</b> Building towers with construction blocks.
<b>Day 2</b>	Reinforce the triangle.	Use shapes to show correct number (1–4).		
<b>Day 3</b>	Position (next to, between, in front of, behind, on top, underneath).	Position: next to, between, in front of, behind, on top, underneath.		
<b>Day 4</b>	Reinforce all the shapes done, shape story.	Direction: forwards, backwards.		
<b>Day 5</b>	Following direction: How do I get to ...? Poster 9. Orientation and views using a toy car.			

Vhiki ra 2				
<b>XIYENGE XA VUNDZENI: TINOMBORO, TIOPAREXINI NA VUXAKA</b>				
<b>NHLOKOMHAKA: Mali: Tumbuluxa vulemukisi bya swingwece swa Afrika-Dzonga</b>				
<b>TIVISA VUTIVI BYINTSHWA:</b> Swingwece swa Afrika-Dzonga, tinomboro ta odinali vun'we kufika eka vumune, ku endla mitlawa yi fana kufika eka 4, ku hlayela michumu 1-6				
<b>TITOLOVETI:</b> Ku hlayela ka swanomu 1-10 na 5-1, ku longoloxela tinomboro 1-4, tiyisisa nongoti wa tinomboro 1-4, nkulukumba kutlula hinkwato kufika eka ntsongo kutlula hinkwato/ntsongo kutlula hinkwato kufika eka nkulukumba kutlula hinkwato				
Migingiriko ya tilasi hinkwayo		Nghingiriko lowu leteriwaka hi mudyondzisi	Migingiriko ya le ka xitichi xo tirhela	
<b>Siku ra 1</b>	Tivisa swingwece swa Afrika-Dzonga (tisente na tirhandi), Phositara ya 7.	Nongoti wa tinomboro 1-4. Nkumbetelo.	<b>Nghingiriko wa 1</b>	Endla xingwece xa wena n'wini (nyika xivumbeko xa xirhendzevutana).
<b>Siku ra 2</b>	Tafula ra matematiki – ku xava, tinomboro ta odinali vun'we kufika eka vumune.	Dludla kutani u tlhantlha hi 4. Swingwece swa Afrika-Dzonga – pananisa swingwece eka 'tinhundzu leti nga evhengeleni'.	<b>Nghingiriko wa 2</b>	Phaphatana ra tinomboro – ku longoloxela tinomboro 1-4.
<b>Siku ra 3</b>	Ku pananisa makhadi ya tinomboro/makhadi ya mathonsi na mavito ya tinomboro.	Tirhisa swingwece leswi tsemiweke; ku ava, ku landzelelanisa, ku pananisa.	<b>Nghingiriko wa 3</b>	Dirowa kumbe u namarheta michumu ku pananisa tinomboro 1-4.
<b>Siku ra 4</b>	Ku landzelelanisa tinomboro 1-4, ku xava	Endla mitlawa yo ringa kufika eka 4 – hi ku tirhisa swihlayeri.	<b>Nghingiriko wa 4</b>	Nghingiriko wo posa hi ku tirhisa nomboro na muhlovo 1-4.
<b>Siku ra 5</b>	Ku ololoxa swiphiquo kufika eka 4 (Phositara ya 7).			

Vhiki ra 3				
<b>NKONGOMO WA XIYENGE XA VUNDZENI: NDHAWU NA XIVUMBeko (JOMETIRI)</b>				
<b>NHLOKOMHAKA: Xiyimo, ndzetelo na matlhelo; hlamusela, ava na ku fananisa swivumbeko swa 2-D</b>				
<b>TIVISA VUTIVI BYINTSHWA:</b> Xiyimo: ehansi ka, ku hlayela ka swanomu 1-15, ku hlayela michumu 1-7, ndzetelo na matlhelo				
<b>TITOLOVETI:</b> Ku hlayela ka swanomu 1-10 na 5-1; ku longoloxela tinomboro 1-4; ku tiyisisa nongoti wa tinomboro 1-4; hlayela kuya endzhaku 5-1; swivumbeko: xirhendzevutana, xikwere na yinhlanharhu; xiyimo: emahlweni ka, endzhaku ka, ehenhla, exikarhi ka, ekusuhi na; tlhelo: kuya emahlweni, kuya endzhaku				
Migingiriko ya tilasi hinkwayo na ya le tlhelo		Nghingiriko lowu leteriwaka hi mudyondzisi	Migingiriko ya le ka xitichi xo tirhela	
<b>Siku ra 1</b>	Swiyimo, ntlangu wa swivumbeko.	Ku hlayela. Tirhisa swivumbeko ku komba nomboro leyi nga lulama (1-4). Xiyimo: ekusuhi na, exikarhi ka, emahlweni ka, endzhaku ka, ehenhla, ehansi ka. Tlhelo: kuya emahlweni, kuya endzhaku.	<b>Nghingiriko wa 1</b>	Penda tinhlanharhu.
<b>Siku ra 2</b>	Tiyisisa yinhlanharhu.		<b>Nghingiriko wa 2</b>	Nghingiriko wa makheroti (tsema tinhlanharhu kutani u hlanganisa nhlayo leyi nga lulama ya matluka).
<b>Siku ra 3</b>	Xiyimo (ekusuhi na, exikarhi ka, emahlweni ka, endzhaku ka, ehenhla, ehansi ka).		<b>Nghingiriko wa 3</b>	Thireyi yo ava – ku ya hi muhlovo, xivumbeko kumbe sayizi (xihlawulekisi xin'we).
<b>Siku ra 4</b>	Tiyisisa swivumbeko hinkwaswo leswi endlweke, xitori xa swivumbeko.		<b>Nghingiriko wa 4</b>	Ku aka swihondzo hi tibuloko to aka.
<b>Siku ra 5</b>	Ku landzelela tlhelo: Xana ndzi famba njhani kufika eka ...? Phositara ya 9. Xiyimo na matlhelo hi ku tirhisa movha wa xitlangiso.			

# Workshop 4 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 Nkambelo ya Ndzetelavutivi wa 4

1. Xana ndzetelavutivi lowu wu fikelerile swilanguteriwa swa wena?

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

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

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

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

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