



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
Buku ya Ntirho Vatekaxiave • Participant's Workbook**

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: 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.

Nongonoko wa Antswiso wa Matematiki wa Giredi ya V wu nyikiwile layisense ehansi ka Creative Commons Attribution 4.0 International Licence [Attribution-NonCommercial-ShareAlike].



Mpfumelelo lowu wu pfumelela vatirhisi-kambe ku va va hangalasa, ku pfallanganyisa na kambe, ku tekelela na ku aka ehenhla ka xitirhisiwa hi xihangalasa mahungu kumbe xivumbeko xin'wana na xin'wana ntsena ku nga ri hi xikongomelo xa ku endla mali, naswona ntsena nxiximo wu nyikiwa mutumbuluxi. Loko u pfallanganyisa nakambe, tekela kumbe ku aka ehenhla ka xitirhisiwa, u fanele ku pasisa xitirhisiwa lexi antswisiweke ehansi ka swipimelo leswi fanaka. Ku vona swipimelo hi vutalo swa layisense leyi, endzela: <https://creativecommons.org/licenses/by-nc-sa/4.0/>

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

Contents

Overview

Purpose	page 6
Learning outcomes	page 6
Workshop content	page 6

Workshop content

Opening and reflection	page 8
Session 1: Data Handling	page 10
Session 2: Numbers, Operations and Relationships	page 18
Session 3: Space and Shape (Geometry)	page 28
Session 4: Planning for teaching	page 32

Appendix A: Term 1 and 2 Weekly Content Summary:

Term 1 (Week 10) and Term 2 (Weeks 1–3)	page 42
Workshop 4 Evaluation Form	page 46

Leswi nga endzeni

Nkatsakanyo

Xikongomelo	pheji ya 7
Mivuyelo ya dyondza	pheji ya 7
Vundzeni bya ndzetelavutivi	pheji ya 7

Vundzeni bya ndzetelavutivi

Ku pfula na ku ehleketsisa	pheji ya 9
Sexini ya 1: Matirhiselo ya Vuxokoxoko bya Tinhlayo	pheji ya 11
Sexini ya 2: Tinomboro, Tioparexini na Vuxaka	pheji ya 19
Sexini ya 3: Ndhawu na Xivumbeko (Jometiri)	pheji ya 29
Sexini ya 4: Nkunguhato wa ku dyondzisa	pheji ya 33

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)

Fomo ya Nkambelo ya Ndzetelavutivi wa 4

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 Kharikhulamu na Makambeleso (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)

Opening and reflection

1 hour

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?

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

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?

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.

Ku pfula na ku ehleketisisa

1 ya awara

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 tlhelela 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?

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

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?

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

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?

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

Working with data

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.

Sexini ya 1: Matirhiselo ya Vuxokoxoko bya Tinhlayo

1 ya awara

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

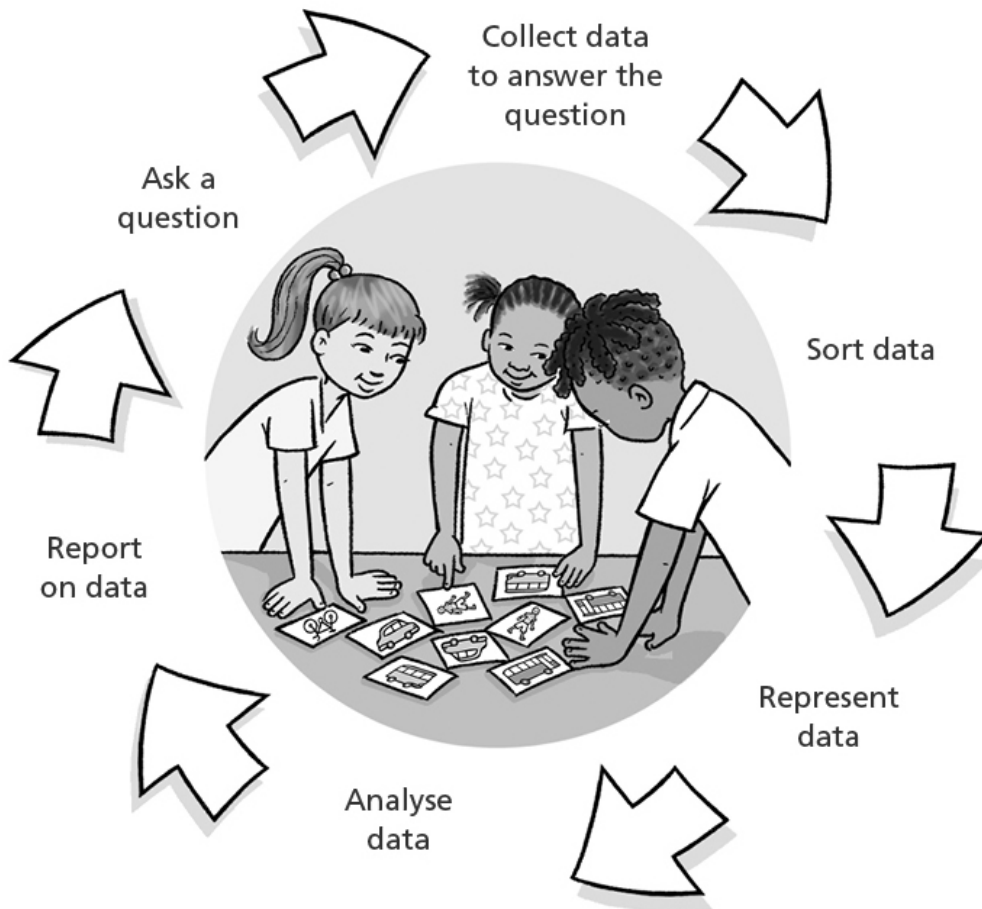
Entlaweni wa n'wina, kanelani.

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

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

Ku tirhana na vuxokoxoko bya tinhlayo

Eka sexini leyi, mi ta dyondza hi mayelana na **ndzhendzeleko wa Matirhiselo ya Vuxokoxoko bya Tinhlayo** tanihi endlelo ra ku ololoxa swiphiqo. 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 xiphiqo.



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.
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.



Hakanyingi vanhu va vula leswaku endlelo ra Matirhiselo ya Vuxokoxoko bya Tinhlayo i ndzhendzeleko hikuva swiendleko kumbe migingiriko 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 hlengelela vuxokoxoko bya tinhlayo byo karhi kumbe vuxokoxoko.
2. **Hlengelela vuxokoxoko bya tinhlayo:** Vadyondzi va boha hilaha va lavaka ku hlengelela hakona vuxokoxoko bya tinhlayo hi ku ya hi xivutiso kumbe xiphiqo lexi.
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.



Video 1

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.

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 16. 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.



Vhidiyo ya 1

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.

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 17. 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 tikhologu 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 Minongoti* ku hlaya swo tala hi mayelana na Matirhiselo ya Vuxokoxoko bya Tinhlayo. Vona swivutiso leswi nga kana 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

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?

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

Activity Guide: Term 2

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*.

Sexini ya 2: Tinomboro, Tioparexini na Vuxaka

1 ya awara

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?

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

Xiletelo xa Migingiriko: Kotara ya 2

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*.



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?

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

Understanding numbers

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.



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.

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



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?
-
-

2. Tlhelela eka Nghingiriko wa 4 kutani u kombisa kumbe u tsondzela minongoti leyi angarheliweke.

Ku twisisa tinomboro

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.



Nghingiriko wa 6

Kongomisa eka migingiriko ya tlilasi 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.
-
-

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.

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	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, mifungo ya tinomboro na mavito ya nomboro		
Ku tirhisa <i>Buku ya Tiphositara</i>		

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

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?

2. What new vocabulary will you introduce?

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

Ntivoririmo 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 ntivoririmo 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

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?

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

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

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?

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

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

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?

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

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

Session 3: Space and Shape (Geometry)

1 hour

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?

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

Triangles

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.

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?

Sexini ya 3: Ndhawu na Xivumbeko (Jometiri)

1 ya awara

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?

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

Tinhlanharhu

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.

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 tihlamlulo leti u nga ta ti langutela eka vadyondzi va wena?

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.

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?

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

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.

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.

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 muhumelerisi 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 tinhlanharhu?

2. Xana vunyingi bya swivutiso i swivutiso leswi nga na makumu yo pfuleka kumbe i swivutiso swo pfaleka?

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



Video 2

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?

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



Vhidiyo ya 2

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 mitlhontho yihi kumbe yihi? Loko swi ri tano, xana i maqhingha wahi lama u ma tirhiseke ku yi ololoxa?

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 angarheliwaka, 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?				
What are the key concepts that learners will be learning?				
What new knowledge is introduced?				
What skills are being practised?				

Swivutiso	Vhiki ra 10 ra Kotara ya 1	Vhiki ra 1 ra Kotara ya 2	Vhiki ra 2 ra Kotara ya 2	Vhiki ra 3 ra Kotara ya 2
Xana hi wihi Nkongomo wa Xiyenge xa Vundzeni wa vhiki leri?				
Xana hi yihi minongotikulu leyi vadyondzi va nga ta va va ri eku yi dyondzeni?				
Xana i vutivi byintshwa muni byi tivisiwaka?				
Xana i swikili swihi swi vaka swi titolovetiwa?				

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.



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.

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.



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 kongomisanani 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 kongomisanani 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



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



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 xiyaxiyiweni.
3. Endla Kopi ya Rhekodo ya Xikombiso ya Makambelelo lama Yaka Emahlweni eka *Xiletelo xa Migingiriko: Kotara ya 1* (tipheji ta 190–193).
4. Tirhisa vuxokoxoko lebyi hlengeletaweke 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				
CONTENT AREA: DATA HANDLING				
TOPIC: Collect and sort objects, represent sorted collections of objects, discuss and report on sorted collections of objects				
INTRODUCE NEW KNOWLEDGE: Collect, sort and represent collections of objects (weather); discuss and report on sorted collections; create own pattern				
PRACTISE: 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	
Day 1	Sorting and classifying, waste items.	Oral counting. Touch and count – one-to-one correspondence. Sorting and classifying activities – animals. Representing and interpreting data.	Activity 1	Sorting waste.
Day 2	Data collection, sorting clothing items.		Activity 2	Sorting colours.
Day 3	Sorting and classifying, group game.		Activity 3	Sorting tray, natural items.
Day 4	Use data collected from the weather discussions, represent and analyse how many days were sunny, raining etc.		Activity 4	Copy pattern using concrete objects and then create own pattern.
Day 5	Weather data collection, representing and analysing.			

Term 2: Activity Plan

Week 1				
CONTENT AREA: NUMBERS, OPERATIONS AND RELATIONSHIPS				
TOPIC: Recognise number symbols and number words, describe, order and compare numbers				
INTRODUCE NEW KNOWLEDGE: More than/fewer than/equal to, introduce number 4				
PRACTISE: 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	
Day 1	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).	Activity 1	Playdough mat 4 (as for previous numbers).
Day 2	Introduce more than/less than/equal to, maths table.		Activity 2	Number ordering puzzle activity to 4 (forms a picture).
Day 3	Reinforce 1–4, dot cards and ordering.		Activity 3	Matching number symbols, words and concrete objects to 4.
Day 4	Reinforce 1–4, Unifix blocks and hoops.		Activity 4	Number puzzles (no number words).
Day 5	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				
NKONGOMO WA XIYENGE XA VUNDZENI: MATIRHISELO YA VUXOKOXOKO BYA TINHLAYO				
NHLOKOMHAKA: Hlengelela kutani u ava michumu, endla vuyimeri bya mihlengelo leyi aviweke ya michumu, kanelani na ku vika hi mihlengelo leyi aviweke ya michumu				
TIVISA VUTIVI BYINTSHWA: 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				
TITOLOVETI: 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	
Siku ra 1	Ku ava na ku ntlawahata, michumu ya thyaka.	Ku hlayela ka swanomu. Khumba kutani u hlayela - ku yelana ka xin'we-eka-xin'we. Migingiriko ya ku ava na ku ntlawahata - swiharhi. Ku endla vuyimeri na ku humesa nhlamuselo ya vuxokoxoko bya tinhlayo.	Nghingiriko wa 1 Nghingiriko wa 2 Nghingiriko wa 3 Nghingiriko wa 4	Ku ava thyaka. Ku ava hi muhlovo. Thireyi yo ava, michumu ya ntumbuluko. Kopunula patironi hi ku tirhisa michumu yo khomeka kutani endzhaku ka swona u tumbuluxa patironi ya wena n'wini.
Siku ra 2	Nhlengeleto wa vuxokoxoko bya tinhlayo, ku ava swiambalo.			
Siku ra 3	Ku ava na ku ntlawahata ntlawa wa ntlangu			
Siku ra 4	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.			
Siku ra 5	Nhlengeleto wa vuxokoxoko bya tinhlayo bya maxelo, ku endla vuyimeri na ku xopaxopa.			

Kotara ya 2: Kungu ra Migingiriko

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

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

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

Vhiki ra 2				
XIYENGE XA VUNDZENI: TINOMBORO, TIOPAREXINI NA VUXAKA				
NHLOKOMHAKA: Mali: Tumbuluxa vulemukisi bya swingwece swa Afrika-Dzonga				
TIVISA VUTIVI BYINTSHWA: 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				
TITOLOVETI: 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	
Siku ra 1	Tivisa swingwece swa Afrika-Dzonga (tisente na tirhandi), Phositara ya 7.	Nongoti wa tinomboro 1-4. Nkumbetelo.	Nghingiriko wa 1	Endla xingwece xa wena n'wini (nyika xivumbeko xa xirhendzevutana).
Siku ra 2	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'.	Nghingiriko wa 2	Phaphatana ra tinomboro – ku longoloxela tinomboro 1-4.
Siku ra 3	Ku pananisa makhadi ya tinomboro/makhadi ya mathonsi na mavito ya tinomboro.	Tirhisa swingwece leswi tsemiweke; ku ava, ku landzelelanisa, ku pananisa.	Nghingiriko wa 3	Dirowa kumbe u namarheta michumu ku pananisa tinomboro 1-4.
Siku ra 4	Ku landzelelanisa tinomboro 1-4, ku xava	Endla mitlawa yo ringa kufika eka 4 – hi ku tirhisa swihlayeri.	Nghingiriko wa 4	Nghingiriko wo posa hi ku tirhisa nomboro na muhlovo 1-4.
Siku ra 5	Ku ololoxa swiphiquo kufika eka 4 (Phositara ya 7).			

Vhiki ra 3				
NKONGOMO WA XIYENGE XA VUNDZENI: NDHAWU NA XIVUMBeko (JOMETIRI)				
NHLOKOMHAKA: Xiyimo, ndzetelo na matlhelo; hlamusela, ava na ku fananisa swivumbeko swa 2-D				
TIVISA VUTIVI BYINTSHWA: Xiyimo: ehansi ka, ku hlayela ka swanomu 1-15, ku hlayela michumu 1-7, ndzetelo na matlhelo				
TITOLOVETI: 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	
Siku ra 1	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.	Nghingiriko wa 1	Penda tinhlanharhu.
Siku ra 2	Tiyisisa yinhlanharhu.		Nghingiriko wa 2	Nghingiriko wa makheroti (tsema tinhlanharhu kutani u hlanganisa nhlayo leyi nga lulama ya matluka).
Siku ra 3	Xiyimo (ekusuhi na, exikarhi ka, emahlweni ka, endzhaku ka, ehenhla, ehansi ka).		Nghingiriko wa 3	Thireyi yo ava – ku ya hi muhlovo, xivumbeko kumbe sayizi (xihlawulekisi xin'we).
Siku ra 4	Tiyisisa swivumbeko hinkwaswo leswi endlweke, xitori xa swivumbeko.		Nghingiriko wa 4	Ku aka swihondzo hi tibuloko to aka.
Siku ra 5	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?

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

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

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

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

Fomo ya Nkambelo ya Ndzetelavutivi wa 4

1. Xana ndzetelavutivi lowu wu fikelerile swilanguteriwa swa wena?

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

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

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

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