GAUTENG PROVINCE
EDUCATION
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GGT 2030
GROWING GAUTENG TOGETHER

Xitsonga/English

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

Ndzetelavutivi wa 6 ● Workshop 6

Buku ya Ntirho ya 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**.

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

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

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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.
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Overview

Purpose

This is the sixth 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 with the implementation of the Maths Programme in their classrooms, especially the Content Areas covered in Term 2 Weeks 8–10. Participants will reflect on their ongoing assessment of learners' progress and will document developmental concerns related to the learners that may require special interventions and support. Participants will also reflect on teaching strategies that strengthen learners' problem-solving skills.

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 2 Weeks 8–10
- To explore strategies to support teaching maths in Grade R
- To reflect on the Maths Programme's principles in the weekly plan
- To engage with the Maths Programme content of Term 2 Weeks 8–10 (Space and Shape (Geometry); Measurement; Numbers, Operations and Relationships)
- To apply knowledge of informal, continuous assessment to learning and teaching

Workshop content

- Opening and reflection (1 hour)
- Session 1: Space and Shape (Geometry) (1 hour)

TEA

- Session 2: Measurement (1 hour)
- Session 3: Numbers, Operations and Relationships (1 hour)

LUNCH

- Session 4: Numbers, Operations and Relationships (45 minutes)
- Session 5: Term 2 Assessment (1 hour)
- Closing activities (15 minutes)

Nkatsakanyo

Xikongomelo

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

Xikongomelo xa ndzetelavutivi lowu i ku pfuna vadyondzisi ku tirhisa Nongonoko wa Matematiki etikamareni to dyondzela ta vona, ngopfungopfu eka Swiyenge swa Vundzeni leswi angarheliweke eka Mavhiki ya 8–10 ya Kotara ya 2. Vatekaxiave va ta ehleketisisa hi mayelana na makambelelo lama yaka emahlweni ya ku ya emahlweni ka vadyondzi naswona va ta tsala swivilelo swa nhluvukiso leswi fambelanaka na vadyondzi lava va nga ha lavaka miphalalo na nseketelo swo hlawuleka. Vatekaxiave va ta tlhela va ehleketisisa hi mayelana na maqhinga ya ku dyondzisa lama ya tiyisaka swikili swa ku ololoxa swiphiqo swa vadyondzi.

Mikongomiso eka Swiyenge swa Vundzeni bya Matematiki wa Giredi ya V swi tekiwa kusuka eka *Xitatimente xa Pholisi ya Kharikhulamu na Makambelelo (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 8–10 ya Kotara ya 2
- Ku valanga maqhinga yo seketela ku dyondzisa matematiki eka Giredi ya V
- Ku ehleketisisa hi milawu ya Nongonoko wa Matematiki leyi nga eka kungu ra vhiki na vhiki
- Ku tirhana na vundzeni bya Nongonoko wa Matematiki bya Mavhiki ya 8–10 ya Kotara ya 2 (Ndhawu na Xivumbeko (Jometiri); Mpimo, Tinomboro, Tioparexini na Vuxaka)
- Ku tirhisa vutivi bya makambelelo lama yaka emahlweni, ya nkamafundza eka ku dyondza na ku dyondzisa

Vundzeni bya ndzetelavutivi

- Ku pfula na ku ehleketisisa (1 ya awara)
- Sexini ya 1: Ndhawu na Xivumbeko (Jometiri) (1 ya awara)

TIYA

- Sexini ya 2: Mpimo (1 ya awara)
- Sexini ya 3: Tipatironi, Tifankixini na Alijebura (1 ya awara)

LANCI

- Sexini ya 4: Tinomboro, Tioparexini na Vuxaka (45 wa timinete)
- Sexini 5: Makambelelo ya Kotara ya 2 (1 ya awara)
- Migingiriko yo pfala (15 wa timinete)

Opening and reflection **1 hour**

Here is the *Take back to school task* from Workshop 5.

Take back to school task (Workshop 5)

1. Continue to use the Record of Continuous Assessments in *Activity Guide: Term 2* to assess your learners. Make use of your ongoing observation notes to build up evidence of what learners understand and can do.
2. Identify any concerns you have about individual learner's emerging grasp of maths concepts.
3. Bring copies of rubrics that you used for maths assessment to the next workshop.
4. Bring a completed assessment record for one learner to the next workshop.
5. Use *Activity Guide: Term 2* to plan and implement Weeks 4–7 of the Maths Programme, including creating a maths area with a focus on the concept for each week.
6. Make notes on what worked well, what did not work so well and what you could do differently to improve teaching and learning.

Activity 1

1. In your groups, discuss your progress in implementing Term 2 Weeks 4–7.
   - What worked well (strengths)?
   - What did not work well (challenges)?
   - What could you do to improve teaching and learning in your classroom?

Record the main points of your discussion on flipchart paper to share with the other groups later.

_____
_____
_____
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_____

Ku pfula na ku ehleketisisa

1 ya awara

Hi lexi *Xintirhwana xo tlhelela na xona exikolweni* kusuka eka Ndzetelavutivi wa 5.

Xintirhwana xo tlhelela na xona exikolweni (Ndzetelavutivi wa 5)

1. Yana emahlweni u tirhisa rhekodo ya Makambelelo lama Yaka Emahlweni lama nga eka *Xiletelo xa Migingiriko: Kotara ya 2* ku kambela vadyondzi va wena. Tirhisa tinosi ta nxiyaxiyo lowu yaka emahlweni ku aka vumbhoni bya leswi vadyondzi va swi twisisaka naswona va nga kotaka ku swi endla.
2. Kuma swivilelo swihi kumbe swihi leswi u nga na swona hi mayelana na ntwisiso lowu tumbulukaka wa mudyondzi hi un'weu'nwe wa minongoti ya matematiki.
3. Tana na tikopi ta tirhubiriki leti u ti tirhiseke eka makambelelo ya matematiki eka ndzetelavutivi lowu landzeleka.
4. Tana na rhekodo ya makambelelo lama hetisiweke ya mudyondzi un'we eka ndzetelavutivi lowu landzelaka.
5. Tirhisa *Xiletelo xa Migingiriko: Kotara ya 2* ku kunguhata na ku tirhisa Mavhiki ya 4–7 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. Endla tinotsi hi mayelana na leswi swi tirheke kahle swinene, leswi swi nga tirhangiki kahle swinene na leswi a wu ta swi endla ku hambana ku antswisa madyondziselo na madyondzelo.

Nghingiriko wa 1

1. Emitlaweni ya n'wina, kanelani ku ya ka wena emahlweni eka ku tirhisa Mavhiki ya 4–7 ya Kotara 2.
   - Xana hi swihi leswi tirheke kahle swinene (matimba)?
   - Xana hi swihi leswi nga tirhangiki kahle (mitlhontlho)?
   - Xana hi swihi leswi u nga swi endlaka ku antswisa madyondziselo na madyondzelo ekamareni ro dyondzela ra wena?

Rhekoda timhakakulu ta nkanelo wa n'wina eka phepha ra chati yo pfula ku ti avelana na mitlawa leyin'wana endzhakunyana ka nkarhi.

_____

_____

_____

_____

_____

2. Discuss how successful you were in:
   - recording notes about individual learners after each teacher-guided activity in Weeks 4–7.
   - completing the Term 2: Record of Continuous Assessments on pages 190–193 of *Activity Guide: Term 2* for each learner.

Record the main points of your discussion on your flipchart paper.

_____

_____

_____

3. Discuss one learner's areas of success and/or difficulty and how you recorded these. Record the main points of your discussion on your flipchart paper.

_____

_____

_____

In the *Take back to school* task in Workshop 5 you were asked to bring copies of the learner assessment rubrics you use as part of the Maths Programme to this workshop. In Activity 2, your group will discuss these rubrics and how assessment information is captured and shared. In Session 5, we will discuss rubrics in more detail.

Activity 2

1. In your groups, share examples of maths rubrics you have used as part of your assessment process.
2. Discuss how you capture the learners' progress on the SA-SAMS system and how this information is shared with parents.

Record the main points of your discussion on flipchart paper to share with the other groups later.

_____

_____

_____

_____

_____

2. Kanelani hilaha u humeleleke hakona eka:
   - ku rhekoda tinotsi hi mayelana na vadyondzi hi un'weun'we endzhaku ka nghingiriko lowu leteriwaka hi mudyondzisi wun'wana na wun'wana eka Mavhiki ya 4–7.
   - ku hetisa Kotara ya 2: Rhekodo ya Xikombiso xa Makambelelo lama yaka Emahlweni eka tipheji ta 190–193 *ta Xiletelo xa Migingiriko: Kotara ya 2* ya mudyondzi un'wana na un'wana.

Rhekodani timhakakulu ta nkanelo wa n'wina eka phepha ra chati yo pfula.

_____
_____
_____

3. Kanelani swiyenge swa mudyondzi un'we swa ku humelela na/kumbe ku tikeriwa na hilaha u rhekodeke leswi hakona. Rhekodani timhakakulu ta nkanelo wa n'wina eka phepha ra chati yo pfula.

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_____
_____

Eka *Xintirhwana xo tlhelela na xona exikolweni* eka Ndzetelavutivi wa 5 u komberiwile ku ta na tikopi ta tirhubiriki ta makambelelo ya vadyondzi leti u ti tirhisaka tanihi xiphemu xa Nongonoko wa Matematiki eka ndzetelavutivi lowu. Eka Nghingiriko wa 2, ntlawa wa n'wina wu ta kanela tirhubiriki leti na hilaha vuxokoxoko bya makambelelo byi rhekodiwaka na ku avelaniwa hakona. Eka Sexini ya 5, hi ta kanela tirhubiriki hi vuenti swinene.

Nghingiriko wa 2

1. Emitlaweni ya n'wina, avelanani swikombiso swa tirhubiriki ta matematiki leti u ti tirhiseke tanihi xiphemu xa phurosese ya wena ya makambelelo.
2. Kanelani hilaha u rhekodaka hakona ku ya emahlweni ka vadyondzi hi mayelana na sisiteme ya SA-SAMS na hilaha vuxokoxoko lebyi byi avelaniwaka hakona na vatswari.

Rhekoda timhakakulu ta nkanelo wa n'wina eka phepha ra chati yo pfula ku ti avelana na mitlawa leyin'wana endzhakunyana ka nkarhi.

_____
_____
_____
_____
_____

Video 1

Watch the video of a teacher observing a group of learners completing a maths activity. Listen to her talking about how she observes and records her learners' progress and how she deals with their different levels of competence.

Discuss how you deal with learners who are not achieving success in the structured weekly plans, as well as those learners who exceed expectations.

_____
_____
_____

The **level principle:** Not all learners progress at the same speed. Some learners need more time to consolidate a skill or concept while others grasp ideas more quickly. The challenge for teachers is to accommodate learners at different levels and to adapt the weekly plan to provide support or extension activities where necessary.

Vhidiyo ya 1

Hlalelani vhidiyo ya mudyondzisi a ri karhi a xiyaxiya ntlawa wa vadyondzi va ri eku hetiseni ka nghingiriko wa matematiki. N'wi yingiseleni a ri karhi a vulavula hi mayelana na hilaha a xiyaxiyaka hakona na ku rhekoda hakona ku ya emahlweni ka vadyondzi va yena na hilaha a tirhanaka hakona na tilevhele to hambanahambana ta vuswikoti.

Kanelani hilaha u tirhanaka hakona na vadyondzi lava va nga fikeleriki ku humelela eka makungu ya vhiki na vhiki lama nga na xivumbeko, xikan'we na vadyondzi lava va hundzisaka swilanguteriwa.

_____

_____

_____

Nawu wa levhele: A hi vadyondzi hinkwavo va yaka emahlweni hi rivilo ro fana. Vadyondzi van'wana va lava nkarhi wo tala ku tiyisa xikili kumbe nongoti loko van'wana va twisisa mianakanyo hi ku hatlisa swinene. Ntlhontlho wa vadyondzisi i ku amukela vadyondzi eka tilevhele to hambanahambana na ku fambelanisa kungu ra vhiki na vhiki ku nyika nseketelo kumbe migingiriko yo engetela laha swi faneleke.

Session 1: Space and Shape (Geometry) **1 hour**

This workshop focuses on teaching the content of Term 2 Weeks 8–10. The focus of Term 2 Week 8 is Space and Shape (Geometry).

Terms 1–4 Content overview: Space and Shape (Geometry)

Refer to the content overview for Space and Shape (Geometry) on pages 126–131 of the *Concept Guide* and complete Activity 3.

Properties of shapes

Learners need many opportunities to compare and sort shapes according to their properties and to describe the similarities and differences of shapes.

 **Activity 4**

The facilitator will give your group a set of shapes.

1. Sort the shapes.
2. Discuss why you sorted them in this way.
3. Sort the shapes in another way.
4. Discuss why you sorted them in this way.

Sexini ya 1: Ndhawu na Xivumbeko (Jometiri)

1 ya awara

Ndzetelavutivi lowu wu kongomisa eka ku dyondzisa vundzeni bya Mavhiki ya 8–10 ya Kotara ya 2. Nkongomo wa Vhiki ra 8 ra Kotara ya 2 i Ndhawu na Xivumbeko (Jometiri).

Nkatsakanyo wa Vundzeni wa Kotara ya 1–4: Ndhawu na Xivumbeko (Jometiri)

Kongomisa eka nkatsakanyo wa vundzeni wa Ndhawu na Xivumbeko (Jometiri) eka tipheji ta 126–131 ta *Xiletelo xa Minongoti* kutani u hetisa Nghingiriko wa 3.

Swihlawulekisi swa swivumbeko

Vadyondzi va lava swivandlanene swo tala ku fananisa na ku ava swivumbeko hi ku ya hi swihlawulekisi swa swona na ku hlamusela hi ku hlawulekisa ku fanana na ku hambana ka swivumbeko.

Nghingiriko wa 4

Muhumelerisi u ta nyika ntlawa wa wena xikatsa xa swivumbeko.

1. Avani swivumbeko leswi.
2. Kanelani leswaku hikwalahokayini mi swi ave hi ndlela leyi.
3. Avani swivumbeko leswi hi ndlela yin'wana.
4. Kanelani leswaku hikwalahokayini mi swi ave hi ndlela leyi.

Term 2 Content Summary: Week 8

Refer to Appendix A: Term 2 Weekly Content Summary (Weeks 8–10). Read the content overview for Week 8: Space and Shape (Geometry) on page 20 of *Activity Guide: Term 2*.

The Space and Shape (Geometry) Content Area was also the focus of Term 2 Weeks 3 and 4. In previous workshops, you have discussed the Space and Shape concepts that need to be covered.

The Weekly Content Summary for Week 8 provides an overview of planning for the week: whole class activities, teacher-guided activities and workstation activities done in independent small groups.

 **Activity 5**

1. Take a few minutes to familiarise yourself with the Week 8 content in Appendix A: Term 2 Weekly Content Summary (Weeks 8–10).
2. Match this with the content on pages 138–153 of *Activity Guide: Term 2*. Identify how the whole class, teacher-guided and workstation activities link with the Week 8 content in Appendix A.

Nkatsakanyo wa Vundzeni wa Kotara ya 2: Vhiki ra 8

Kongomisa eka Xiengetelwa xa A: Nkomiso wa Vundzeni wa Vhiki na Vhiki wa Kotara ya 2 (Mavhiki ya 8–10). Hlaya nkatsakanyo wa vundzeni wa Vhiki ra 8: Ndhawu na Xivumbeko (Jometiri) eka pheji ya 20 ya *Xiletelo xa Migingiriko: Kotara ya 2*.

Xiyenge xa Vundzeni xa Ndhawu na Xivumbeko (Jometiri) xi tlhele xi va nkongomo wa Mavhiki ya 3 na 4 ya Kotara ya 2. Eka miletelavutivi ya nkarhi lowu nga hundza, mi kanerile minongoti ya Ndhawu na Xivumbeko leyi fanelaka ku angarheliwa.

Nkomiso wa Vundzeni wa Vhiki na Vhiki wa Vhiki ra 8 wu nyika nkatsakanyo wa nkunguhato wa vhiki leri: migingiriko ya tlilasi hinkwayo, migingiriko leyi leteriwaka hi mudyondzisi na migingiriko ya le ka xitichi xo tirhela leyi endliwaka hi mitlawa leyitsongo leyi tshunxekeke.

Nghingiriko wa 5

1. Teka timinete tingaritingani ku titoloveta hi vundzeni bya Vhiki ra 8 eka Xiengetelwa xa A: Nkomiso wa Vundzeni wa Vhiki na Vhiki wa Kotara ya 2 (Mavhiki ya 8–10).
2. Pananisa leswi na vundzeni lebyi nga eka tipheji ta 138–153 ta *Xiletelo xa Migingiriko: Kotara ya 2*. Kuma hilaha migingiriko ya tlilasi hinkwayo, migingiriko leyi leteriwaka hi mudyondzisi na migingiriko ya le ka xitichi xo tirhela yi xakelanaka na vundzeni bya Vhiki ra 8 leri nga eka Xiengetelwa xa A.

Session 2: Measurement **1 hour**

The focus of Term 2 Week 9 is Measurement.

Terms 1–4 Content overview: Measurement

Refer to the content overview for Measurement on pages 132–135 of the *Concept Guide*.

 **Activity 6**

1. What Measurement concepts are covered in Term 2?

_____

_____

_____

2. What are the differences between the Maths Programme content and the CAPS content?

_____

_____

_____

Directly comparing objects: length

In Term 1 of the Maths Programme the focus of the Measurement Content Area was time (day, night, days of the week, sequencing events, etc.) and the height chart. In Term 2 Week 9, the focus is on using non-standard units to measure and compare length.

 **Activity 7**

1. **Direct comparison**
   Choose a partner to stand next to. The rest of your group members should compare your heights.
   - Who is taller? _____
   - Who is shorter? _____
   - Find a third person who is taller than both of these people.

2. **Using non-standard units of measurement**
   Choose three objects (e.g. a key, a cellphone, a purse).
   - Use one of these items at a time to measure this *Participant's Workbook*.
   - Report your findings to the group.

Sexini ya 2: Mpimo

1 ya awara

Nkongomo wa Vhiki ra 9 ra Kotara ya 2 i Mpimo.

Nkatsakanyo wa Vundzeni wa Kotara ya 1–4: Mpimo.

Kongomisa eka nkatsakanyo wa vundzeni wa Mpimo eka tipheji ya 132–135 ta *Xiletelo xa Minongoti*.

Nghingiriko wa 6

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

_____

_____

_____

2. Xana hi kwihi ku hambana exikarhi ka vundzeni bya Nongonoko wa Matematiki na vundzeni lebya XIPHOKHAMA?

_____

_____

_____

Fananisa michumu hi ku kongoma: vulehi

Eka Kotara ya 1 ya Nongonoko wa Matematiki nkongomo wu le ka Xiyenge xa Vundzeni xa Mpimo a ku ri nkarhi (nhlekanhi, vusiku, masiku ya vhiki, ku landzelelanisa swiendleko, sw.sw.) na chati ya vulehelahenhla. Eka Vhiki ra 9 ra Kotara ya 2, nkongomo wu le ka ku tirhisa tiyuniti leti nga riki ta ntolovelo ku pima na ku fananisa vulehi.

Nghingiriko wa 7

1. **Mfananiso wo kongoma**
   Hlawula mutirhisani ku yima ekusuhi na yena. Lavan'wana hinkwavo va swirho swa ntlawa wa wena va fanele ku fananisa vulehelahenhla.
   - Xana i mani a nga lehanyana? _____
   - Xana i mani a nga komanyana? _____
   - Kuma munhu wa vunharhu loyi a nga leha kutlula havumbirhi bya vanhu lava.

2. **Ku tirhisa tiyuniti leti nga riki ta ntolovelo**
   Hlawula michumu yinharhu (xik. khiya, selifoni, xipaci).
   - Tirhisa wun'we wa michumu leyi hi nkarhi wa ku pima *Buku ya Ntirho ya Vatekaxiave*.
   - Vika swikumiwa swa wena eka ntlawa.

Term 2 Content Summary: Week 9

Refer to Appendix A: Term 2 Weekly Content Summary (Weeks 8–10). Read the content overview for Week 9: Measurement on page 20 of *Activity Guide: Term 2*.

Read the whole class activities for Week 9 on pages 154–165 of *Activity Guide: Term 2*.

 **Activity 9**

In your groups, discuss how length is taught during the whole class activities in Week 9.

1. What could you do if a learner is not yet able to compare and order objects according to length – long/longer and short/shorter by the end of Week 9?

_____
_____
_____

2. What could you do if some learners complete a workstation activity successfully quicker than planned?

_____
_____
_____

Nkatsakanyo wa Vundzeni wa Kotara ya 2: Vhiki ra 9

Kongomisa eka Xiengetelwa xa A: Nkomiso wa Vundzeni wa Vhiki na Vhiki wa Kotara ya 2 (Mavhiki ya 8–10). Hlaya nkatsakanyo wa vundzeni wa Vhiki ra 9: Mpimo lowu nga eka pheji ya 21 ya *Xiletelo xa Migingiriko: Kotara ya 2*.

Hlaya migingiriko ya ntlawa hinkwawo ya Vhiki ra 9 leri nga eka tipheji ta 154–165 ta *Xiletelo xa Migingiriko: Kotara ya 2*.

Nghingiriko wa 9

Emitlaweni ya n'wina, kanelani hilaha vulehi byi dyondzisiwaka hakona hi nkarhi wa migingiriko ya tlilasi hinkwayo eka Vhiki ra 9.

1. Xana hi swihi leswi u nga swi endlaka loko mudyondzi a nga se kota ku fananisa na ku landzelelanisa michumu hi ku ya hi vulehi – leha/lehanyana na koma/komanyana hi ku hela ka Vhiki ra 9?

_____
_____
_____

2. Xana hi swihi leswi u nga swi endlaka loko vadyondzi van'wana va heta nghingiriko wa le ka xitichi xo tirhela hi ndlela leyi humeleleke yo hatlisa kutlula leswi kunguhatiweke?

_____
_____
_____

Session 3: Numbers, Operations and Relationships

1 hour

The focus of Term 2 Week 10 is Numbers, Operations and Relationships.

Terms 1–4 Content overview: Numbers, Operations and Relationships

The Numbers, Operations and Relationships Content Area was also the focus in Weeks 1, 2 and 5 of Term 2, and you discussed the number concepts that need to be covered in previous workshops. Look at the content overview for Numbers, Operations and Relationships on pages 114–123 of the *Concept Guide*.

 **Activity 10**

What number concepts still need to be covered in Term 2?

_____

_____

Problem solving

Teachers need to provide learners with many opportunities to solve problems so that they can apply their maths knowledge and skills in new contexts. All games and activities involve problem solving. Word problems in maths introduce a specific type of problem solving that involves solving addition, subtraction, multiplication and division problems. In Grade R learners solve addition and subtraction problems by counting and using concrete apparatus to help them find a solution. They use grouping and one-to-one sharing to solve multiplication and division problems.

The biggest challenge in presenting word problems to learners, is to ensure that there is appropriate questioning and use of language. When teachers present a word problem, they need to listen carefully to learners' responses and guide them to solve the problem using a strategy that is suitable for their level of understanding.

The posters in the *Poster Book* have been designed to provide learners with a set of pictures that relate to their lives and provide contexts for solving real-life problems.

In Week 10 Day 4 (page 180 of *Activity Guide: Term 2*), Poster 1 is used to encourage learners to solve problems that involve numbers 1–5.

Sexini ya 3: Tinomboro, Tioparexini na Vuxaka

1 ya awara

Nkongomo wa Vhiki ra 10 ra Kotara ya 2 i Tinomboro, Tioparexini na Vuxaka.

Nkatsakanyo wa Vundzeni wa Kotara ya 1–4: Tinomboro, Tioparexini na Vuxaka

Xiyenge xa Vundzeni xa Tinomboro, Tioparexini na Vuxaka xi tlhele xi va nkongomo eka Mavhiki ya 1, 2 na 5 ya Kotara ya 2, naswona mi kanele minongoti ya tinomboro leyi yi faneleke ku angarheliwa eka miletelavutivi ya nkarhi lowu nga hundza. Languta nkatsakanyo wa vundzeni wa Tinomboro, Tioparexini na Vuxaka eka tipheji ta 114–123 ta *Xiletelo xa Minongoti*.

Nghingiriko wa 10

Xana i minongoti yihi ya tinomboro leyi ya ha lavaka ku angarheliwa eka Kotara ya 2?

_____

_____

Ku ololoxa swiphiqo

Vadyondzisi va fanele ku nyika vadyondzi swivandlanene swo tala ku ololoxa swiphiqo ku endlela leswaku va kota ku tirhisa vutivi na swikili swa vona swa matematiki eka mivangu yintshwa. Mitlangu na migingiriko hinkwayo yi khumba ku ololoxa swiphiqo. Swiphiqo swa marito eka matematiki swi tivisa muxaka wo karhi wa ku ololoxa swiphiqo loku khumbaka swiphiqo swo hlanganisa, swo susa, swa andziso na swo avanyisa. Eka Giredi ya V vadyondzi va ololoxa swiphiqo swo hlanganisa na swo susa hi ku hlayela na hi ku tirhisa switirhisiwa swo khomeka ku va pfuna ku kuma xitshunxo. Va tirhisa ntlawahato na ku avelana ka xin'we-eka-xin'we ku ololoxa swiphiqo swo andzisa na swo avanyisa.

Ntlhontlho lowukulu kutlula hinkwayo eka ku andlala swiphiqo swa marito eka vadyondzi, i ku tiyisisa leswaku ku na mavutiselo lama faneleke na ntirhiso lowu faneleke wa ririmi. Loko vadyondzisi va andlala xiphiqo xa marito, va fanele ku yingisela hi vukheta tinhlamulo ta vadyondzi na ku va letela ku ololoxa swiphiqo hi ku tirhisa qhinga leri ri faneleke eka levhele ya vona ya ntwisiso.

Tiphositara leti nga eka *Buku ya Tiphositara* ti dizayineriwile ku nyika vadyondzi xikatsa xa swifaniso leswi swi fambelanaka na vutomi bya vona na ku nyika mivangu ya ku ololoxa swiphiqo swa vutomi bya xiviri.

Eka Vhiki ra 10 Siku ra 4 (pheji ya 180 ya *Xiletelo xa Migingiriko: Kotara ya 2*), Phositara ya 1 yi tirhisiwa ku khutaza vadyondzi ku ololoxa swiphiqo leswi swi khumbaka tinomboro ta 1–5.

 **Activity 11**

In your groups, refer to Poster 1. Think of appropriate word problems for each of these skills:

- comparing
- matching
- counting
- addition
- subtraction
- grouping
- equal sharing.

_____

_____

_____

_____

When you do word-problem activities with your learners, allow them to use their fingers or counters to help them solve the problems.

One of the sections in Numbers, Operations and Relationships is, 'Solve problems in context'. In your groups, read the content overview for Term 2 for this section on page 120 of the *Concept Guide*. Then complete Activity 12.

 **Activity 12**

Reflect on Activity 11.

1. What concepts and skills are taught and learnt in the topic: Problem-solving techniques?

_____

_____

2. What concepts and skills are taught and learnt in topic: Addition and subtraction?

_____

_____

 **Nghingiriko wa 11**

Emitlaweni ya n'wina, kongomisani eka Phositara ya 1. Ehleketani hi swiphiqo swa marito leswi faneleke swa xin'wana na xin'wana xa swikili leswi:

- ku fananisa
- ku pananisa
- ku hlayela
- ku hlanganisa
- ku susa
- ku ntlawahata
- ku avelana ko ringana.

_____
_____
_____
_____

Loko u endla migingiriko ya swiphiqo swa marito na vadyondzi va wena, va pfumeleli ku tirhisa tintiho ta vona kumbe swihlayeri ku va pfuna ku ololoxa swiphiqo leswi.

Xin'wana xa swiyenge eka Tinomboro, Tioparexini na Vuxaka i, 'Ololoxa swiphiqo eka mbangu'. Emitlaweni ya n'wina, hlayani nkatsakanyo wa vundzeni wa Kotara ya 2 wa xiyenge lexi nga eka pheji ya 120 ya *Xiletelo xa Minongoti*. Endzhakukaswona hetisani Nghingiriko wa 12.

 **Nghingiriko wa 12**

Ehleketisisani hi Nghingiriko wa 11.

1. Xana i minongoti na swikili swihi swi dyondzisiwaka na ku dyondziwa eka nhlokomhaka leyi: Tithekiniki ta ku ololoxa swiphiqo?

_____
_____

2. Xana i minongoti na swikili swihi swi dyondzisiwaka na ku dyondziwa eka nhlokomhaka leyi: Ku hlanganisa na ku susa?

_____
_____

Estimation

Learners develop estimation skills and make a 'sensible' guess about 'how many objects' there are in a collection. During measurement activities, they estimate how heavy or how long something is, or how many cups will fill a jug before they do the actual measuring.

 **Activity 13**

The facilitator will show you two jars. Estimate how many objects are in each jar and respond to her questions.

_____

_____

Learners need to be able to use terms such as: *too few, too many, more than, enough, not enough, nearly, close to, about the same, just under, just over*.

Teachers can plan estimation activities that encourage learners to make sensible guesses about the quantity of a group of objects or the measurement of an object.

Term 2 Content Summary: Week 10

Refer to Appendix A: Term 2 Weekly Content Summary (Weeks 8–10). Read the content overview for Week 10: Numbers, Operations and Relationships on page 20 of *Activity Guide: Term 2*.

 **Activity 14**

1. What are the topics for Week 10?

_____

_____

2. What new knowledge is introduced in this week?

_____

_____

3. What skills from previous weeks are practised?

_____

_____

Refer to the estimation activities in Week 10 (*Activity Guide: Term 2*, pages 174 (Day 1), 176 (Day 2) and 178 (Day 3)).

Nkumbetelo

Vadyondzi va hluvukisa swikili swa nkumbetelo na ku endla mvhumbo wo ‘twala’ hi mayelana na leswaku ‘ku na michumu yingani’ eka nhlengelo. Hi nkarhi wa migingiriko ya mpimo, va kumbetela leswaku xilo xin’wana xi tika kumbe xi lehile kufika kwihi, kumbe i tikhapi tingani ti tataka jeke va nga si endla ku pima ka xiviri.

 **Nghingiriko wa 13**

Muhumelerisi u ta komba tijara timbirhi. Kumbetela leswaku i michumu yingani leyi nga ejareni kutani u hlamula xivutiso yena.

_____

_____

Vadyondzi va fanele ku kota ku tirhisa matheme yo tanihi: *ntsongo kutlula mpimo, tala kutlula mpimo, tala kutlutla, enela, enelangi, kwalomu ka, ekusuhi na, fananyana, ehansinyana, ehenhlanyana*.

Vadyondzisi va nga kunguhata migingiriko leyi yi khutazaka vadyondzi ku endla mivhumbo yo tivikana hi mayelana na ntalo wa ntlawa wa michumu kumbe mpimo wa nchumu.

Nkatsakanyo wa Vundzeni wa Kotara ya 2: Vhiki ra 10

Kongomisa eka Xiengetelwa xa A: Nkomiso wa Vundzeni wa Vhiki na Vhiki wa Kotara ya 2 (Mavhiki ya 8–10). Hlaya nkatsakanyo wa vundzeni wa Vhiki ra 10: Tinomboro, Tioparexini na Vuxaka eka pheji ya 21 ya *Xiletelo xa Migingiriko: Kotara ya 2*.

 **Nghingiriko wa 14**

1. Xana hi tihi tinhlokomhaka ta Vhiki ra 10?

_____

_____

2. Xana i vutivi byintshwa byihi lebyi byi tivisiwaka eka vhiki leri?

_____

_____

3. Xana i swikili swihi kusuka eka mavhiki lama nga hundza swi titolovetiweke?

_____

_____

Kongomisa eka migingiriko ya nkumbetelo leyi nga eka Vhiki ra 10 (*Xiletelo xa Migingiriko: Kotara ya 2*, tipheji ta 174 (Siku ra 1), 176 (Siku ra 2) na 178 (Siku ra 3)).

Session 4: Numbers, Operations and Relationships

45 minutes

The Maths Programme focuses on one main Content Area each week. You will have noticed that even though when the weekly Content Area Focus is not 'number', the number routines continue every day of each week. The reason for this is that repetition and practice are essential for consolidating the learners' developing number skills.

The whole class activities for each day of the week always start with three number routines:

- a song or rhyme
- oral counting
- counting objects.

These three number routines are planned to match the number range for each term.

Activity 15

Find the Term 2 daily number routines in *Activity Guide: Term 2* and complete the table. Week 1 has been done for you.

Week	Content Area Focus	Song or rhyme	Oral counting	Counting objects
1	Numbers, Operations and Relationships	A rhyme from Term 1	1–10 5–1	1–5 (birthday chart)
2				
3				

Sexini ya 4: Tinomboro, Tioparexini na Vuxaka

45 wa timinete

Nongonoko wa Matematiki wu kongomisa eka Xiyengekulu xa Vundzeni xin'we eka vhiki rin'wana na rin'wana. Mi ta va mi vonile leswaku hambiloko Nkongomo wa Xiyenge xa Vundzeni xa vhiki na vhiki ku nga ri 'nomboro', migingiriko ya siku na siku ya tinomboro yi ya emahlweni masiku hinkwawo ya vhiki rin'wana na rin'wana. Xivangelo xa leswi hi leswaku mbuyelelo na ku titoloveta i swa nkoka eka ku tiyisa swikili swa tinomboro leswa ha hluvukaka swa vadyondzi.

Migingiriko ya tlilasi hinkwayo ya siku rin'wana na rin'wana ra vhiki mikarhi hinkwayo yi sungula hi migingiriko ya siku na siku ya tinomboro tinharhu:

- risimu kumbe rhayimi
- ku hlayela ka swanomu
- ku hlayela michumu.

Migingiriko leyi ya tinomboro tinharhu ya siku na siku yi kunguhatiwile ku panana na vunavi bya tinomboro bya kotara yin'wana na yin'wana.

Nghingiriko wa 15

Kuma migingiriko ya siku na siku ya tinomboro ta siku na siku ya Kotara ya 2 leyi nga eka *Xiletelo xa Migingiriko: Kotara ya 2* kutani u hetisa tafula leri. Vhiki ra 1 u endleriwile rona.

Vhiki	Nkongomo wa Xiyenge xa Vundzeni	Risimu kumbe rhayimi	Ku hlayela ka swanomu	Ku hlayela michumu
1	Tinomboro, Tioparexini na Vuxaka	Rhayimi kusuka eka Kotara ya 1	1–10 5–1	1–5 (chati ya masiku ya ku velekiwa)
2				
3				

4				
5				
6				
7				
8				
9				
10				

Having looked through the number content for Term 2, you will have noticed that the number routines are practised every day of each week regardless of the Content Area Focus and that the progression in number range increases across the term.

4				
5				
6				
7				
8				
9				
10				

Loko mi langutile vundzeni bya tinomboro eka Kotara ya 2, mi ta va mi swi lemukile leswaku migingiriko ya tinomboro ya siku na siku ya titolovetiwa masiku hinkwawo ya vhiki rin'wana na rin'wana swi nga ri na mhaka leswaku i yini Nkongomo wa Xiyenge xa Vundzeni na leswaku ku ya emahlweni eka vunavi bya tinomboro swi engetela eka kotara hinkwayo.

Session 5: Term 2 Assessment **1 hour**

 **Video 2**

Watch the video of a teacher presenting word problems to a small group of learners.

Observe how each learner solves the problem. Notice how the teacher uses prompts when a learner has difficulty.

 **Activity 16**

Look at the rubric on page 106 of the *Concept Guide*.

In your groups, discuss how you would score each of the learners using this scale. Give reasons for your decisions based on the assessment criteria for each rating code.

_____
_____
_____
_____
_____

Sexini ya 5: Makambelelo ya Kotara ya 2

1 ya awara

 **Vhidiyo ya 2**

Hlalelani vhidiyo ya mudyondzisi loyi a andlalaka swiphiqo swa marito eka ntlawa lowutsongo wa vadyondzi.

Xiyaxiya hilaha mudyondzi un'wana na un'wana a ololoxaka xiphiqo lexi hakona. Vona hilaha mudyondzisi a tirhisaka hakona switsundzuxo loko mudyondzi a ri na ku tikeriwa.

 **Nghingiriko wa 16**

Langutani rhubiriki leyi nga eka pheji ya 107 ya *Xiletelo xa Minongoti*.

Emitlaweni ya n'wina, kanelani hilaha mi nga ta nyika xikoro hakona eka un'wana na un'wana wa vadyondzi hi ku tirhisa xikalo lexi. Nyikani swivangelo swa swiboho swa n'wina hi ku ya hi mipimo ya makambelelo eka khodi yo pima yin'wana na yin'wana.

_____
_____
_____
_____
_____

Closing activities

15 minutes

Activity 17

Workshop reflection: Take a few minutes to reflect on the day. Page through your *Participant's Workbook* to remind yourself of what was covered. Write down any questions or comments to share with the group.

_____
_____
_____
_____
_____

Take back to school task

1. Use *Activity Guide: Term 2* to plan and implement Weeks 8–10 of the Maths Programme.
2. Write an evaluation of what worked well, what did not work so well and what you could do differently to improve teaching and learning.
3. Bring your evaluation to the next workshop.

Evaluation

Complete the Evaluation Form.

Migingiriko yo pfala

15 wa timinete

Nghingiriko wa 17

Vuehleketisisi bya ndzetelavutivi: Teka timinete tingaritingani ku ehleketisisa hi mayelana na siku leri. Pfula *Buku ya Ntirho ya Vatekaxiave* ku titsundzuxa hi leswi swi angarheliweke. Tsala swivutiso kumbe swibumabumelo swihi kumbe swihi ku avelana na ntlawa.

_____
_____
_____
_____
_____

Xintirhwana xo tlhelela na xona exikolweni

1. Tirhisa *Xiletelo xa Migingiriko: Kotara ya 2* ku kunguhata na ku tirhisa Mavhiki ya 8–10 ya Nongonoko wa Matematiki.
2. Tsala nkambelo wa leswi swi tirheke kahle swinene, na leswi swi nga tirhangiki kahle swinene na leswi a wu ta swi endla ku hambana ku antswisa madyondziselo na madyondzelo.
3. Tana na nkambelo wa wena eka ndzetelavutivi lowu landzelaka.

Nkambelo

Tatisa Fomo leya Nkambelo.

APPENDIX A: TERM 2 WEEKLY CONTENT SUMMARY (WEEKS 8–10)

Term 2: Activity Plan

<table>
<tr><th colspan="5">Week 8</th></tr>
<tr><td colspan="5">CONTENT AREA: SPACE AND SHAPE (GEOMETRY)</td></tr>
<tr><td colspan="5">TOPIC: Properties of shapes – compare same and different, sort according to properties; position; orientation and views
INTRODUCE NEW KNOWLEDGE: Follow direction and midline crossing
PRACTISE: Oral counting 1–20, counting backwards from 7, sequencing numbers 1–5, counting objects 1–7, reinforce number concept 1–5, what number comes before/after, practise using all shapes</td></tr>
<tr><th colspan="2">Whole class activities</th><th>Teacher-guided activity</th><th colspan="2">Workstation activities</th></tr>
<tr><td>Day 1</td><td>Forwards/backwards.</td><td rowspan="5">Counting – show me 1–3, 5–7 counters.
Working with all taught shapes.
Midline crossing. Position – direction.
Forwards/backwards.</td><td>Activity 1</td><td>Sorting activity – using cut-out shapes.</td></tr>
<tr><td>Day 2</td><td>Reinforce all shapes (I spy …).</td><td>Activity 2</td><td>Make shapes using playdough and make a copy.</td></tr>
<tr><td>Day 3</td><td>Shape game.</td><td>Activity 3</td><td>Masking tape shapes – learners follow shapes using blocks.</td></tr>
<tr><td>Day 4</td><td>What can I do: Lost my … (shape).</td><td>Activity 4</td><td>Match shapes using shape cards.</td></tr>
<tr><td>Day 5</td><td>Obstacle course (requires a big space/outdoors). Midline crossing.</td><td></td><td></td></tr>
<tr><th colspan="5">Week 9</th></tr>
<tr><td colspan="5">CONTENT AREA: MEASUREMENT</td></tr>
<tr><td colspan="5">TOPIC: Length – compare and order objects using appropriate vocabulary to describe length
INTRODUCE NEW KNOWLEDGE: Measuring and comparing length (long/short, longer/shorter, longest/shortest)
PRACTISE: Oral counting 1–20, counting backwards from 7, counting objects 1–7, estimation 1–7, tall/short</td></tr>
<tr><th colspan="2">Whole class activities</th><th>Teacher-guided activity</th><th colspan="2">Workstation activities</th></tr>
<tr><td>Day 1</td><td>Longer/shorter (height).</td><td rowspan="5">Longer than/shorter than.
Taller than/shorter than.
Measurement with everyday objects.</td><td>Activity 1</td><td>Shorter/longer (pre-cut strips of different length).</td></tr>
<tr><td>Day 2</td><td>Comparing lengths of ribbons.</td><td>Activity 2</td><td>Wiggly worms (to make a poster shortest to longest).</td></tr>
<tr><td>Day 3</td><td>Sorting objects by length (coloured paper strips).</td><td>Activity 3</td><td>Measure blocks using string.</td></tr>
<tr><td>Day 4</td><td>Height chart comparison (from Term 1).</td><td>Activity 4</td><td>Playdough and lined paper (different lengths).</td></tr>
<tr><td>Day 5</td><td>Height chart comparison (taller/shorter than you).</td><td></td><td></td></tr>
</table>

XIENGETELWA XA A: NKOMISO WA VUNDZENI WA VHIKI NA VHIKI WA KOTARA YA 2 (MAVHIKI YA 8–10)

Kotara ya 1: Kungu ra Migingiriko

<table>
<tr><th colspan="5">Vhiki ra 8</th></tr>
<tr><td colspan="5">XIYENGE XA VUNDZENI: NDHAWU NA XIVUMBEKO (JOMETIRI)</td></tr>
<tr><td colspan="5">NHLOKOMHAKA: Swihlawulekisi swa swivumbeko – fananisa ku fana na ku hambana, ava hi ku ya hi swihlawulekisi; xiyimo, ndzetelo na matlheelo
TIVISA VUTIVI BYINTSHWA: Landzelela matlhelo na ku hingakanya ntila wa le xikarhi
TITOLOVETI: Ku hlayela ka swanomu 1–20, ku hlayela kuya endzhaku kusuka eka 7, ku longoloxela tinomboro ta 1–5, ku hlayela michumu 1–7, tiyisisa nongoti wa tinomboro 1–5, xana i nomboro mani leyi yi taka emahlweni ka/endzhaku ka, titoloveti hi ku tirhisa swivumbeko hinkwaswo.</td></tr>
<tr><th colspan="2">Migingiriko ya tlilasi hinkwayo</th><th>Nghingiriko lowu leteriwaka hi mudyondzisi</th><th colspan="2">Migingiriko ya le ka xitichi xo tirhela</th></tr>
<tr><td>Siku ra 1</td><td>Kuya emahlweni/kuya endzhaku.</td><td rowspan="5">Ku hlayela – ndzi kombi 1–3, 5–7 wa swihlayeri.
Ku tirha hi swivumbeko leswi dyondzisiweke hinkwaswo.
Ku hingakanya ntila wa le xikarhi. Xiyimo – tlhelo.
Kuya emahlweni/kuya endzhaku.</td><td>Nghingiriko wa 1</td><td>Nghingiriko wo ava – hi ku tirhisa swivumbeko leswi tsemiweke.</td></tr>
<tr><td>Siku ra 2</td><td>Tiyisisa swivumbeko hinkwaswo (Ndza hlometela …).</td><td>Nghingiriko wa 2</td><td>Endla swivumbeko hi ku tirhisa vumba byo tlangisa kutani u endla kopi.</td></tr>
<tr><td>Siku ra 3</td><td>Ntlangu wa swivumbeko.</td><td rowspan="2">Nghingiriko wa 3</td><td rowspan="2">Swivumbeko swa thepi yo namarheta – vadyondzi va landzelela swivumbeko hi ku tirhisa tibuloko.</td></tr>
<tr><td>Siku ra 4</td><td>Xana ndzi nga endla yini: Ndzi lahle …. ya mina (xivumbeko).</td></tr>
<tr><td>Siku ra 5</td><td>Ndlela ya xihingakanyi (wu lava ndhawu leyikulu/ehandle ka miako). Ku hingakanya ntila wa le xikarhi.</td><td>Nghingiriko wa 4</td><td>Pananisa swivumbeko hi ku tirhisa swivumbeko swa makhadi.</td></tr>
<tr><th colspan="5">Vhiki ra 9</th></tr>
<tr><td colspan="5">XIYENGE XA VUNDZENI: MPIMO</td></tr>
<tr><td colspan="5">NHLOKOMHAKA: Vulehi – fananisa na ku landzelelanisa michumu hi ku tirhisa ntivomarito lowu faneleke ku hlamusela vulehi
TIVISA VUTIVI BYINTSHWA: Ku pima na ku fananisa: vulehi (leha/koma, lehanyana/komanyana, leha kutlula hinkwaswo/koma kutlula hinkwaswo)
TITOLOVETI: Ku hlayela ka swanomu 1–20, ku hlayela kuya endzhaku kusuka eka 7, ku hlayela michumu 1–7, nkumbetelo 1–7, leha/koma</td></tr>
<tr><th colspan="2">Migingiriko ya tlilasi hinkwayo na ya le tlhelo</th><th>Nghingiriko lowu leteriwaka hi mudyondzisi</th><th colspan="2">Migingiriko ya le ka xitichi xo tirhela</th></tr>
<tr><td>Siku ra 1</td><td>Lehanyana/komanyana (vulehelahenhla).</td><td rowspan="5">Leha kutlula/koma kutlula.
Lehela henhla kutlula/koma kutlula.
Mpimo hi michumu ya masiku hinkwawo.</td><td>Nghingiriko wa 1</td><td>Komanyana/lehanyana (switiripi leswi rhangeke swi tsemiwa swa vulehi byo hambanahambana).</td></tr>
<tr><td>Siku ra 2</td><td>Ku fananisa vulehi bya tirhibono.</td><td>Nghingiriko wa 2</td><td>Swivungu swo tshombonyoka (ku endla phositara ya koma kutlula hinkwaswo na leha kutlula hinkwaswo).</td></tr>
<tr><td>Siku ra 3</td><td>Ku ava michumu hi vulehi (switiripi swa phepha leswi pendiweke).</td><td>Nghingiriko wa 3</td><td>Pima tibuloko hi ku tirhisa tingoti.</td></tr>
<tr><td>Siku ra 4</td><td>Mfananiso wa chati ya vulehelahenhla (kusuka eka Kotara ya 1).</td><td>Nghingiriko wa 4</td><td rowspan="2">Vumba byo tlangisa na maphepha lama forisiweke layini (vulehi byo hambanahambana).</td></tr>
<tr><td>Siku ra 5</td><td>Mfananiso wa chati ya vulehelahenhla (lehela henhla/koma kutlula wena).</td><td></td></tr>
</table>

<table>
<tr><th colspan="5">Week 10</th></tr>
<tr><td colspan="5">CONTENT AREA: NUMBERS, OPERATIONS AND RELATIONSHIPS</td></tr>
<tr><td colspan="5">TOPIC: Describe, compare and order numbers; addition and subtraction (oral); problem solving
INTRODUCE NEW KNOWLEDGE: Breaking down and building up numbers, problem-solving techniques, addition and subtraction using concrete objects, numbers in familiar settings (address and phone number)
PRACTISE: Oral counting 1–20, counting backwards from 7, sequencing numbers 1–5, counting objects 1–7, reinforce number concept 1–5, what number comes before/after</td></tr>
<tr><th colspan="2">Whole class activities</th><th>Teacher-guided activity</th><th colspan="2">Workstation activities</th></tr>
<tr><td>Day 1</td><td>Ordering, using numbers 1–5.
Dot cards.</td><td rowspan="5">Ordering numbers and dot cards (1–5).
Fewer/more/less than.
Decomposition of numbers.
Phone numbers and addresses.</td><td>Activity 1</td><td>Write numbers 1–5 and draw dots using white board markers and plastic sheets.
Count sticks to match.</td></tr>
<tr><td>Day 2</td><td>Addition using concrete objects.
Musical chairs.</td><td>Activity 2</td><td>Tracing shapes according to given number.</td></tr>
<tr><td>Day 3</td><td>Subtraction using concrete objects.</td><td>Activity 3</td><td>Feely cups with number of objects – feel amount and show number symbol.</td></tr>
<tr><td>Day 4</td><td>Problem solving. Poster 1.</td><td>Activity 4</td><td>Number matching pictures.</td></tr>
<tr><td>Day 5</td><td>Memory game: Address and phone number. Game: Making groups of 1–5 learners.</td><td></td><td></td></tr>
</table>

<table>
<tr><th colspan="5">Vhiki ra 10</th></tr>
<tr><td colspan="5">XIYENGE XA VUNDZENI: TINOMBORO, TIOPAREXINI NA VUXAKA</td></tr>
<tr><td colspan="5">NHLOKOMHAKA: Hlamusela, fananisa na ku landzelelanisa tinomboro; ku hlanganisa na ku susa (swa nomu); ku ololoxa swiphiqo
TIVISA VUTIVI BYINTSHWA: Ku tlhantlha na ku vumba tinomboro, tithekiniki ta ku ololoxa swiphiqo, ku hlanganisa na ku susa hi ku tirhisa michumu yo khomeka, tinomboro eka mivangu leyi nga toloveleka (adirese na nomboro ya riqingho)
TITOLOVETI: Ku hlayela ka swanomu 1–20, ku hlayela kuya endzhaku kusuka eka 7, ku longoloxela tinomboro ta 1–5, ku hlayela michumu 1–7, tiyisisa nongoti wa tinomboro 1–5, xana i nomboro mani leyi yi taka emahlweni ka/endzhaku ka</td></tr>
<tr><th colspan="2">Migingiriko ya tlilasi hinkwayo</th><th>Nghingiriko lowu leteriwaka hi mudyondzisi</th><th colspan="2">Migingiriko ya le ka xitichi xo tirhela</th></tr>
<tr><td>Siku ra 1</td><td>Ku landzelelanisa, hi ku tirhisa 1–5. Makhadi ya mathonsi.</td><td rowspan="5">Ku landzelelanisa tinomboro na makhadi ya tinomboro (1–5).
Ntsongo kutlula/ tala kutlula/ehansi ka.
Ku tlhantlhiwa ka tinomboro.
Tinomboro ta tiqingho na tiadirese.</td><td>Nghingiriko wa 1</td><td>Tsala tinomboro ta 1–5 kutani u dirowa mathonsi hi ku tirhisa timakara ta bodo yo basa na swipandzu swa pulasitiki. Hlayela swimhandzana ku pananisa.</td></tr>
<tr><td>Siku ra 2</td><td>Ku hlanganisa hi ku tirhisa michumu yo khomeka. Vuyimveleri bya switulu.</td><td>Nghingiriko wa 2</td><td>Landzelerisa swivumbeko hi ku ya hi nomboro leyi nyikiweke.</td></tr>
<tr><td>Siku ra 3</td><td>Ku susa hi ku tirhisa michumu yo khomeka.</td><td>Nghingiriko wa 3</td><td>Tikhapi to twa leti nga na nhlayo ya michumu – twana ntalo kutani u kombe mfungho wa nomboro.</td></tr>
<tr><td>Siku ra 4</td><td>Ku ololoxa swiphiqo. Phositara ya 1.</td><td>Nghingiriko wa 4</td><td>Swifaniso swo pananisa tinomboro.</td></tr>
<tr><td>Siku ra 5</td><td>Ntlangu wa nkhumbulo: Adirese na nomboro ya riqingho. Ntlangu: Ku endla mitlawa ya 1–5 wa vadyondzi.</td><td colspan="2"></td></tr>
</table>

Workshop 6 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 6

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?

_____
_____
_____
_____