

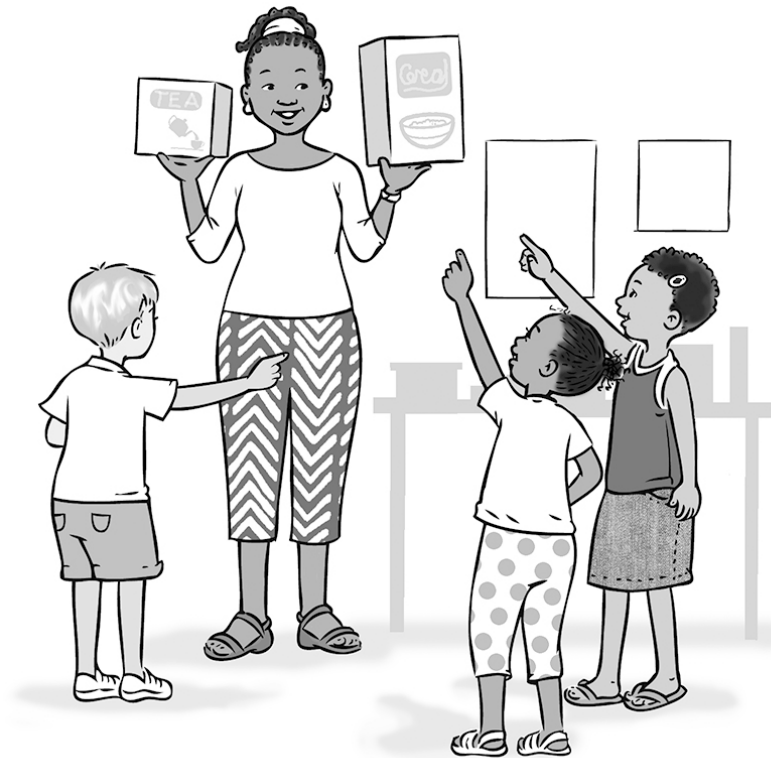


**GAUTENG PROVINCE**  
EDUCATION  
REPUBLIC OF SOUTH AFRICA

**GGT 2030**  
GROWING GAUTENG TOGETHER

Tshivenda/English

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



**Wekishopo ya 5 • Workshop 5  
Nyendedzi ya Mutshimbidzi • Facilitator's Guide**

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

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

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

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- The R-Maths writing team: SDU staff and consultants.



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

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



Iyi laisentsi i tendela vhashumisi-hafhu uri vha i phaḍaladze, ḱanganyise, shandule, na u fhaḱa nḱha ha tshishumiwa tshi re kha tshivhumbeo tshiḱwe na tshiḱwe nahone ndi zwa u sa bindudza, tenda ndivhuwo dza n̄ekedzwa musiki. Arali vha ḱanganyisa, shandula kana u fhaḱa nḱha ha tshishumiwa, vha tea u n̄etshedza laisentsi kha tshishumiwa tsho khwinifhadzawo fhasi ha milayo i fanaho. U sedza milayo yo fhelelaho ya laisentsi iyi, kha vha dalele:

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U pindulela kha Tshivenḱa: Vho Alugumi Rathumbu  
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# Overview

## Purpose

This is the fifth 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 continue to implement the Maths Programme in their classrooms, to strengthen their understanding of teaching and learning in the Content Areas covered in Term 2 Weeks 4–7 and to reflect on how they are putting the guiding principles of teaching maths into practice in their classrooms.

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 Week 10 and Term 2 Weeks 1–3
- ◆ To explore strategies to support teaching maths in Grade R
- ◆ To reflect on the Maths Programme’s guiding principles of teaching
- ◆ To engage with the Maths Programme content for Term 2 Weeks 4–7 (Space and Shape (Geometry); Numbers, Operations and Relationships; Patterns, Functions and Algebra; and Data Handling)
- ◆ To discuss appropriate observation and assessment in Grade R

## Workshop content

- ◆ Opening and reflection (1 hour)
- ◆ Session 1: Space and Shape (Geometry) (1 hour)
- TEA
- ◆ Session 2: Numbers, Operations and Relationships (1 hour)
- ◆ Session 3: Patterns, Functions and Algebra (1 hour)
- LUNCH
- ◆ Session 4: Data Handling (1 hour)
- ◆ Closing activities (1 hour)

# Manweledzo

## Ndivho

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

Ndivho ya wekishopo iyi ndi u thusa vhagudisi u thoma Mbekanyamushumo ya Mbalo ngomu kiḁasirumuni dzavho, u khwaṭhisedza u pfesesa havho ha u funza na u guda kha Sia ḁa Magudiswa ḁo kwamiwaho kha Kotara ya 2 Vhege ya 4–7 na u amba nga uri vha khou shumisa hani milayo ya nyendedzi ya u funza mbalo uri vha shumise ngomu kiḁasini dzavho.

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

## Mvelelo dza u guda

- ◆ U humbula nga u thomiwa ha Kotara ya 1 Vhege ya 10 na Kotara ya 2 Vhege ya 1–3
- ◆ U tandula maano u itela u tikedza u funza mbalo kha Gireidi ya Ṭ
- ◆ U amba nga milayo ya nyendedzi ya u funza ya Mbekanyamushumo ya Mbalo
- ◆ U shuma na magudiswa a Mbekanyamushumo ya Mbalo a Kotara ya 2 Vhege ya 4–7 (Tshikhala na Tshivhumbeo (Dzhometiri); Nomboro, Tswayo na Vhushaka; Phetheni, Fankisheni na Aḁidzhebura; na U shuma na Data)
- ◆ U haseledza nga u vhona na u linga ho teaho kha Gireidi ya Ṭ

## Magudiswa a wekishopo

- ◆ Mvulatswinga na mihumbulo (Awara 1)
- ◆ Dzulo ḁa 1: Tshikhala na Tshivhumbeo (Dzhometiri) (Awara 1)

TIE

- ◆ Dzulo ḁa 2: Nomboro, Tswayo na Vhushaka (Awara 1)
- ◆ Dzulo ḁa 3: Phetheni, Fankisheni na Aḁidzhebura (Awara 1)

TSHISWITULO

- ◆ Dzulo ḁa 4: U shuma na Data (Awara 1)
- ◆ Nyito dza u vala (Awara 1)

## Preparation

- ◆ PPT welcome and outcomes
- ◆ Read:
  - Concept Guide*, pages 114–131 and 136–137
  - Activity Guide: Term 2*, pages 18–21 and pages 70–137
  - Appendix A: Term 2 Weekly Content Summary (Weeks 4–7)
- ◆ Bring a large toy, e.g. a car, a doll.
- ◆ PPT: Data Handling cycle (from Workshop 4).
- ◆ For Session 4, prepare a pictograph chart, 'How did you travel to this workshop?' with picture cards for 'taxi', 'car', 'walk' and 'other' and 'smiley face' cards for each participant.

## Materials

- ◆ Flipchart paper, kokis
- ◆ *Resource Kit* for each group
- ◆ *Concept Guide*
- ◆ Collection of 3-D objects for each group (Session 2)
- ◆ Washing line and pegs for each group (Session 2)



## Ndugiselo

- ◆ PPT u t̄anganedza na mvelelo
- ◆ Kha vha vhale:  
*Nyendedzi ya D̄ivhaipfi*, masiat̄ari a 114–131 na a 136–137  
*Nyendedzi ya Nyito: Kotara ya 2*, masiat̄ari a 18–21 na masiat̄ari a 70–137  
T̄humetshedzo ya A: Manweledzo a Magudiswa a Vhege nga Vhege a Kotara ya 2 (Vhege ya 4–7)
- ◆ Kha vha d̄ise tshitambiswa tshihulwane, sa tsumbo, golo, mpopi.
- ◆ PPT: Mutevhethandu wa U shuma na Data (u bva kha Wekishopo ya 4).
- ◆ U itela Dzulo la 4, kha vha dzudzanye tshati ya girafu ya zwifanyiso, 'Vho d̄isa hani kha ino wekishopo?' na magaraṭa a zwifanyiso zwa 'thekhisi', 'golo', 'u tshimbila' na 'zwiṅwe' na magaraṭa a 'tshifhaṭuwo tshi mwemwelaho' a mushelamulenzhe muṅwe na muṅwe.

## Matheriala

- ◆ Bammbiri la filipitshati, dzikhokhi
- ◆ *Khithi ya Zwishumiswa* ya tshigwada tshiṅwe na tshiṅwe
- ◆ *Nyendedzi ya D̄ivhaipfi*
- ◆ Khuvhanganyo ya zwithu zwa 3-D ya tshigwada tshiṅwe na tshiṅwe (Dzulo la 2)
- ◆ Muthambi wa u anea na phekhisi dza tshigwada tshiṅwe na tshiṅwe (Dzulo la 2)

# Opening and reflection

1 hour

## Facilitator's notes

- ◆ PPT: Open the session and read through the agenda and learning outcomes for the workshop.
- ◆ Remind participants of the *Take back to school* task from the end of Workshop 4.
- ◆ Ask participants to reflect on their observations and assessment of learners, and how they have been implementing the Maths Programme in their classrooms. Discuss what is working well and any concerns that participants may have.

The **inclusivity principle**: All learners should feel welcome, included and happy to participate. Remember to treat all learners fairly and with respect.

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



### Activity 1

Discuss your progress in implementing the *Take back to school* task from Workshop 4.

1. What progress in maths did you observe in your learners after implementing Term 1?

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2. How did the information in the 'Check that learners are able to' in *Activity Guide: Term 1* assist you in assessing each learner's progress in Term 1?

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3. Did you successfully record each learner's progress using 'Term 1: Exemplar Record of Continuous Assessments' on pages 190–193 of *Activity Guide: Term 1*?

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## Notsi dza mutshimbidzi

- ◆ PPT: Kha vha vule dzulo vha vhale adzhenda na mvelelo dza u guda dza wekishopo.
- ◆ Kha vha humbudze vhashelamulenzhe nga *Mushumo wa u tuwa nawo tshikoloni* u bva mafheleloni a Wekishopo ya 4.
- ◆ Kha vha humbele vhashelamulenzhe u amba nga zwe vha vhona na u lingiwa ha vhagudi, na uri vha khou thoma hani Mbekanyamushumo ya Mbalo ngomu kijasini dzavho. Kha vha haseledze zwine zwa khou shuma zwavhuḽi na mbilaelo dziḽwe na dziḽwe dzine vhashelamulenzhe vha vha nadzo.

**Mulayo wa vhukateli:** Vhagudi vhoṽhe vha fanela u pfa vho ṽanganedzwa, vho katelwa na u takalela u shela mulenzhe. Vha humbule u fara vhagudi vhoṽhe u fana nahone nga ṽthonifho.

Kha vha ambe nga u thoma havho Mbekanyamushumo ya Mbalo kha mbekanyamushumo ya ḽuvha liḽwe na liḽwe yavho vha fhedzise nyito i tevhelaho.



### Nyito ya 1

Kha vha haseledze mvelaphanḽa yavho kha u thoma *Mushumo wa u tuwa nawo tshikoloni* u bva kha Wekishopo ya 4.

1. Ndi mvelaphanḽa ifhio kha mbalo ye vha i vhona kha vhagudi vhavho nga murahu ha u thoma Kotara ya 1?

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2. Mafhungo a 'Kha vha ṽole uri vhagudi vha a kona u' a re kha *Nyendedzi ya Nyito: Kotara ya 1* o vha thusa hani kha u linga mvelaphanḽa ya mugudi muḽwe na muḽwe kha Kotara ya 1?

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3. Vho kona u rekhoda zwavhuḽi mvelaphanḽa ya mugudi muḽwe na muḽwe vha tshi shumisa 'Kotara ya 1: Tsumbo ya Rekhodo ya u Linga hu yaho Phanḽa' kha masiaṽari a 190–193 a *Nyendedzi ya Nyito: Kotara ya 1*?

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### Video 1

Watch the video of the teacher discussing observation and assessment in her Grade R classroom.

What do you think the intention of the activity is? Pay special attention to how the teacher prompts the learners with questions and how she observes each learner.

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### Facilitator's notes

- ◆ PPT: Summary of notes on rubrics, and Figure 39 and 40 of the *Concept Guide* (pages 106–109).
- ◆ Encourage participants to share their methods of assessment and how they use rubrics. Ask each group to write notes on flipchart paper and present these after **Activity 2**.
- ◆ Refer to the School Based Assessments (SBA) and SA-SAMS online systems to find out how participants engage with these.
- ◆ Remind participants of the **level principle** and discuss how they manage learners with different abilities.



### Activity 2

In your small groups, discuss:

1. How you are managing assessment in your classroom.
2. How you use rubrics in your assessment process.
3. How you incorporate the School Based Assessments (SBA) and SA-SAMS online system as part of your assessment process.

Write down the main points of your discussion to share with the whole group. Consider what works well and where you have challenges with assessment.

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The **level principle**: Some learners may need more practice and support than other learners. Be sure to allow learners enough time and support to complete activities, to think and to answer questions.



## Vidiyo ya 1

Kha vha t̄alele vidiyo ya mugudisi a tshi khou haseledza zwe a vhona na u linga kilasini yawe ya Gireidi ya T̄.

Vha humbula uri tshipikwa tsha nyito ndi tshifhio? Kha vha dzhiele nzhele uri mugudisi u t̄ut̄ula hani vhagudi nga mbudziso na uri u sedza hani mugudi muñwe na muñwe.

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### Notsi dza mutshimbidzi

- ◆ PPT: Manweledzo a notsi nga dziruburiki, na Figara ya 39 na 40 dza *Nyendedzi ya Divhaipfi* (masiat̄ari a 106–109).
- ◆ Kha vha t̄ut̄uwedze vhashelamulenzhe u amba nga ngona dzavho dza u linga na uri vha shumisa hani dziruburiki. Kha vha humbele tshigwada tshin̄we na tshin̄we u ñwala notsi kha bammbiri la filipitshati na u kumedza izwi nga murahu ha **Nyito ya 2**.
- ◆ Kha vha sedze kha School Based Assessment (SBA) na sisteme dza inthanethe dza SA-SAMS u wana uri vhashelamulenzhe vha shuma hani nazwo.
- ◆ Kha vha humbudze vhashelamulenzhe nga **mulayo wa maimo** vha haseledze nga uri vho langisa hani vhagudi vha re na vhukoni ho fhambanaho.



## Nyito ya 2

Zwigwadani zwavho zwiṱuku, kha vha haseledze:

1. Vha khou langisa hani u linga ngomu kilasini yavho.
2. Vha shumisa hani dziruburiki kha maitete avho a u linga.
3. Vha katela hani School Based Assessments (SBA) na sisteme dza inthanethe dza SA-SAMS sa tshipiḁa tshavho tsha maitete a u linga.

Kha vha ñwale mbuno dza ndeme dza khaseledzo yavho u itela u kovhana na tshigwada tshihulwane. Kha vha limuwe zwine zwa shuma zwavhuḁi na hune vha vha na khaedu dza u linga.

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**Mulayo wa maimo:** Vhañwe vhagudi vha nga t̄oḁa u ita ñḁowedzo lunzhi na thikhedzo u fhira vhañwe vhagudi. Vha tendele vhagudi tshifhinga tsho eḁanaho na thikhedzo u itela u fhedzisa nyito, u humbula na u fhindula mbudziso.

# Session 1: Space and Shape (Geometry)

1 hour

## Facilitator's notes

- ◆ This workshop focuses on teaching the content of Term 2 Weeks 4–7. The Content Area Focus of Week 4 is Space and Shape (Geometry). Remind participants that this was also the focus of Term 2 Week 3 (covered in Workshop 4).
- ◆ Refer participants to pages 126–131 of the *Concept Guide*.
- ◆ Ask participants to work in groups to complete **Activity 3**.

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

This session focuses on teaching the content of Term 2 Week 4 – Space and Shape (Geometry). Remember that Space and Shape (Geometry) was also the focus of Week 3 which we covered in Workshop 4.

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



### Activity 3

What Space and Shape concepts are presented in 3.1 and 3.2 of the content overview?

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## Facilitator's notes

- ◆ Ensure that participants identify the Space and Shape concepts in 3.1 and 3.2 and understand that the focus is on: position, orientation and views; describing 3-D objects in relation to themselves; following directions.
- ◆ In **Activity 4** the focus is on describing an object from different positions (views).
- ◆ In step 1 of **Activity 4**, show the participants the toy car or doll that you brought along (or a shoe or mug). Ask them to look at the object from different positions and to describe what they see. Ask them where they are in relation to the object e.g. *in front of, behind, next to, underneath, above*.

In Grade R learners describe, sort and compare 3-D objects and focus on the similarities and differences between them. In Term 2 Week 4 learners sort, compare and describe 3-D objects according to size, colour and shape. They also look at and describe objects in relation to themselves and each other and from different positions (orientation and views). Another focus in Week 4 is on following directions and using vocabulary associated with position.

# Dzulo la 1: Tshikhala na Tshivhumbeo (Dzhometiri)

Awara 1

## Notsi dza mutshimbidzi

- ◆ Wekishopo iyi yo sedzesa kha u funza magudiswa a Kotara ya 2 Vhege ya 4–7. Sia la Magudiswa lo Sedzwaho la Vhege ya 4 ndi Tshikhala na Tshivhumbeo (Dzhometiri). Kha vha humbudze vhashelamulenzhe uri izwi zwo vha zwo sedzeswa hafhu nga Kotara ya 2 Vhege ya 3 (zwo kwamiwa kha Wekishopo ya 4)
- ◆ Kha vha rumele vhashelamulenzhe kha masiatari a 126–131 a *Nyendedzi ya Divhaipfi*.
- ◆ Kha vha humbele vhashelamulenzhe u shuma nga zwigwada u fhedzisa **Nyito ya 3**.

## Manweledzo a magudiswa a Kotara ya 2: Tshikhala na Tshivhumbeo (Dzhometiri)

Dzulo ili li sedzesa kha u funza magudiswa a Kotara ya 2 Vhege ya 4 Tshikhala na Tshivhumbeo (Dzhometiri). Vha humbule uri Tshikhala na Tshivhumbeo (Dzhometiri) zwo vha zwo sedzeswa hafhu kha Vhege ya 3 zwe ra ri kwama kha Wekishopo ya 4.

Kha vha vhale manweledzo a magudiswa a Tshikhala na Tshivhumbeo (Dzhometiri) kha masiatari a 126–131 a *Nyendedzi ya Divhaipfi* vha fhedzise Nyito ya 3.



### Nyito ya 3

Ndi divhaipfi ifhio ya Tshikhala na Tshivhumbeo yo kumedzwaho kha 3.1 na 3.2 zwa manweledzo a magudiswa?

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## Notsi dza mutshimbidzi

- ◆ Kha vha vhone uri vhashelamulenzhe vha topola divhaipfi ya Tshikhala na Tshivhumbeo kha 3.1 na 3.2 nahone vha a pfesesa uri ho sedzeswa kha: vhuimo, orienthesheni na u vhona; u talusa zwithu zwa 3-D zwi tshi elana na zwone zwine; u tevhela masia.
- ◆ Kha **Nyito ya 4** ho sedzeswa kha u talusa tshithu u bva kha vhumo ho fhambanaho (u vhona).
- ◆ Kha liga la 1 la **Nyito ya 4**, kha vha sumbedze vhashelamulenzhe goloi ya u tambisa kana mpopi we vha da nawo (kana tshienda kana dzhomela). Kha vha vha humbele u lavhelesa kha tshithu u bva kha masia o fhambanaho na u talusa zwine vha khou vhona. Kha vha vha vhudzise uri vha ngafhi zwi tshi elana na tshithu, sa tsumbo, *phanḁa ha, murahu, tsini na, nga fhasi, nḁha ha*.

Kha Gireidi ya T vha gudi vha talusa, u vhekanya na u vhambedza zwithu zwa 3-D vha sedzesa na kha zwi fanaho na zwo fhambanaho vhukati hazwo. Kha Kotara ya 2 Vhege ya 4 vha gudi vha vhekanya, u vhambedza na u talusa zwithu zwa 3-D u ya nga saizi, muvhala na tshivhumbeo. Vha dovha hafhu vha sedza na u talusa zwithu zwi tshi elana navho na zwone zwine na u bva kha vhumo ho fhambanaho (orienthesheni na u vhona). Zwiḁwe zwo sedzwaho kha Vhege ya 4 ndi u tevhela masia na u shumisa divhaipfi i tshimbilelanaho na vhuimo.



### Activity 4

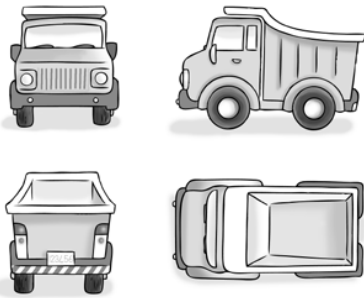
1. Discuss how you could use objects in your classroom to encourage learners to talk about their position in relation to the objects they are looking at.

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2. Look at the pictures. Describe where you would stand in order to see each of the views of the truck.



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In front of the truck, looking at the side of the truck, behind the truck, looking down on the truck (from above).

### Term 2 Week 4

Refer to the teacher-guided activity on pages 80–83 of *Activity Guide: Term 2*.



### Activity 5

1. Which Space and Shape concepts are presented?

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Position, orientation, views: objects look different when viewed from different positions.  
Position vocabulary: *front, back, side, above, below, underneath*.  
Sorting and identifying shapes.





#### Nyito ya 4

1. Kha vha haseledze uri vha nga shumisa hani zwithu zwi re ngomu kiḽasini yavho u tuṭuwedza vhagudi u amba nga vhuimo havho zwi tshi elana na zwithu zwine vha khou zwi lavhelesa.

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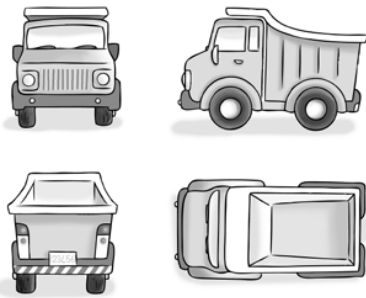


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2. Kha vha lavhelese kha zwifanyiso. Kha vha ṭaluse uri vha ḽo ima ngafhi u itela u vhona mbonalo inwe na inwe ya ṭhiraka.




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Phanda ha ṭhiraka, u lavhelesa matungo a ṭhiraka, murahu ha ṭhiraka, u lavhelesa fhasi kha ṭhiraka (u bva nṭha).

#### Kotara ya 2 Vhege ya 4

Kha vha sedze kha nyito yo rangwaho phanḽa nga mugudisi kha masiaṭari a 80–83 a Nyendedzi ya Nyito: Kotara ya 2.



#### Nyito ya 5

1. Ndi ḽivhaipfi ifhio ya Tshikhala na Tshivhumbeo yo kumedzwaho?

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Vhuimo, orienthesheni, u vhona: zwithu zwi vhoneala nga nḽila inwe musi zwi tshi sedzwa u bva kha vhumo ho fhambanaho.

ḽivhaipfi ya vhuimo: *phanḽa, murahu, matungo, nṭha, fhasi, nga fhasi.*

U vhekanya na u topola zwivhumbeo.

2. Give examples of guiding questions that are asked in the teacher-guided activities. Will these questions encourage learners to talk about the concepts in question 1?
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Learners need many opportunities to play with and sort collections of 3-D objects. Teachers need to understand the underlying concepts in Space and Shape (Geometry) and communicate these using the correct maths language.

The following points should be remembered.

- ◆ An object is three-dimensional (3-D). You can look at it from the top, the bottom and the sides. 3-D objects have length, breadth (width) and height.
- ◆ A shape is two-dimensional (2-D). Shapes include circles, triangles, squares and rectangles. They have length and breadth (width).
- ◆ As learners explore the properties of 3-D objects they will identify objects that 'look like' 2-D shapes, e.g. the door looks like a rectangle, the road sign looks like a triangle, the plate looks like a circle. They will start to understand that the surfaces of 3-D objects look like 2-D shapes.

The **interaction principle**: Learning involves communication and the sharing of ideas. Responding in an appropriate way to something is a very important part of communication and of teaching and learning. Always listen to learners when they share their ideas or respond to your questions.

## Term 2 Content Summary (Week 4)

### Facilitator's notes

- ◆ By this stage, participants will have engaged with the Weekly Content Summaries in previous workshops. It is important that they make the connection between the CAPS content, planning for a week and the activities for the small group sessions.
- ◆ Remind participants that they also need to plan free choice activities that are linked to the concepts being taught in the week.

2. Kha vha nee tsumbo dza mbudziso dzi gaidaho dzine dza vhudziswa kha nyito dzo rangwaho phanda nga mugudisi. Mbudziso idzi dzi do tũtũwedza vhagudi u amba nga divhaipfi i re kha mbudziso ya 1?
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Vhagudi vha toda zwickhala zwinzhi zwa u tamba nga na vhekanya hekanya khuvhanganyo dza zwithu zwa 3-D. Vhagudisi vha fanela u pfesesa divhaipfi dza Tshikhala na Tshivhumbeo (Dzhometiri) na u amba izwi vha tshi shumisa luambo lwo teaho lwa mbalo.

Mbuno dzi tevhelaho dzi fanela u humbulwa.

- ◆ Tshithu tshi na mielo miraru (3-D). Vha nga tshi lavhelesa u bva nga ntha, fhasi na matungo. Zwithu zwa 3-D zwi na vhulapfu, vhuphara (u tandavhuwa) na vhuntha.
- ◆ Tshivhumbeo tshi na mielo mivhili (2-D). Zwivhumbeo zwi katela zwitendeledi, dzihofunderaru, zwickwea na dzihofundeina. Zwi na vhulapfu na vhuphara (u tandavhuwa).
- ◆ Zwenezwi vhagudi vha tshi khou tandula vhunzani ha zwithu zwa 3-D vha do topola zwithu zwine 'zwa fana na' zwivhumbeo zwa 2-D, sa tsumbo, munango u fana na thofundeina, luswayo lwa badani lu fana na thofunderaru, phulethi i fana na tshitendeledi. Vha do thoma u pfesesa uri nyalo dza zwithu zwa 3-D dzi fana na zwivhumbeo zwa 2-D.

**Mulayo wa mvuvhano:** U guda hu katela u davhidzana na u kovhana mihumbulo. U fhindula nga ndila yo teaho kha tshinwe tshithu ndi tshipida tsha ndeme tsha u davhidzana na u funza na u guda. Tshifhinga tshothe vha thetshesele vhagudi musi vha tshi kovhana mihumbulo yavho kana u fhindula mbudziso dzavho.

## Manweledzo a Magudiswa a Kotara ya 2 (Vhege ya 4)

### Notsi dza mutshimbidzi

- ◆ Nga hetshino tshifhinga, vhashelamulenzhe vha do vha vho no shuma na Manweledzo a Magudiswa a Vhege nga Vhege kha wekishopo dzo fhiraho. Ndi zwa ndeme uri vha ite vhumani vhukati ha magudiswa a TSHIPHOKHALI, u pulanela vhege na nyito dza madzulo a zwigwada zwiuku.
- ◆ Kha vha humbudze vhashelamulenzhe uri vha fanela u pulana nyito dza u dinangela dzine dzi na vhumani na divhaipfi ine ya khou funzwa vhege iyo.



### Activity 6

Refer to Appendix A: Term 2 Weekly Content Summary (Weeks 4–7). Read the content overview for Week 4: Space and Shape (Geometry) on page 10 of *Activity Guide: Term 2*.

1. What are the topics for Week 4?

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2. What new knowledge is introduced in this week?

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3. What skills from previous weeks are practised?

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## Nyito ya 6

Kha vha lavhelese kha Thumetsshedzo ya A: Manweledzo a Magudiswa a Vhege nga Vhege a Kotara ya 2 (Vhege ya 4–7). Kha vha vhale manweledzo a magudiswa a Vhege ya 4: Tshikhala na Tshivhumbeo (Dzhometiri) kha siatari la 10 la *Nyendedzi ya Nyito: Kotara ya 2*.

1. Ndi thero dzifhio dza Vhege ya 4?

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2. Ndi ndivho ntswa ifhio ine ya khou divhadzwa kha vhege ino?

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3. Ndi zwikili zwifhio u bva kha vhege dzo fhelaho zwine ha khou itwa ndowedzo yazwo?

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# Session 2: Numbers, Operations and Relationships

1 hour

The focus of Term 2 Week 5 is Numbers, Operations and Relationships.

## Facilitator's notes

- ◆ Explain that the focus in Term 2 Week 5 is on Numbers, Operations and Relationships again. Remind participants that this was also the focus of Term 2 Weeks 1 and 2 (covered in Workshop 4).
- ◆ Refer participants to pages 114–123 of the *Concept Guide*.
- ◆ Ask participants to work in groups to complete **Activity 7**.

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

Previous workshops have presented the Content Area Focus: Numbers, Operations and Relationships. In this session we look at the Term 1–4 content overview (*Concept Guide*, pages 114–123) again.



### Activity 7

What new numbers are introduced in Term 2?

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4 and 5

## Term 2 Week 5: Teaching number

The number 'five' is introduced in Term 2 Week 5. The Maths Programme encourages the use of numbers in different situations and the use of multiple representations, e.g. a symbol, a word, a picture, dot cards, counters, claps. The routine used for introducing each number engages learners in a routine that is familiar, predictable, fun and presents the number in different ways.

## Facilitator's notes

- ◆ Ask participants to think back to how they introduced numbers in previous weeks.
- ◆ Reflect on how the same routine is used to introduce each new number. Explain that the number 'five' is introduced in Term 2 Week 5 using the same routine as before. Discuss how this routine actively engages learners in learning about the concept of number.
- ◆ Refer participants to page 90 of *Activity Guide: Term 2*.
- ◆ Let them complete **Activity 8** in groups and then report back.

## Dzulo la 2: Nomboro, Tswayo na Vhushaka Awara 1

Kotara ya 2 Vhege ya 5 yo sedzesa kha Nomboro, Tswayo na Vhushaka.

### Notsi dza mutshimbidzi

- ◆ Kha vha talutshedze uri Kotara ya 2 Vhege ya 5 yo sedza kha Nomboro, Tswayo na Vhushaka hafhu. Kha vha humbudze vhashelamulenzhe uri izwi zwo vha zwo sedzwa hafhu kha Kotara ya 2 Vhege ya 1 na 2 (zwo kwamiwa kha Wekishopo ya 4).
- ◆ Kha vha rumele vhashelamulenzhe kha masiatari a 114–123 a *Nyendedzi ya Divhaipfi*.
- ◆ Kha vha humbele vhashelamulenzhe u shuma nga zwigwada u fhedzisa **Nyito ya 7**.

### Manweledzo a magudiswa a Kotara ya 2: Nomboro, Tswayo na Vhushaka

Wekishopo dzo fhiraho dzo kumedza Sia la Magudiswa lo Sedzwaho: Nomboro, Tswayo na Vhushaka. Kha dzulo ili ri lavhelesa kha manweledzo a magudiswa a Kotara ya 1–4 (*Nyendedzi ya Divhaipfi*, masiatari a 114–123) hafhu.



### Nyito ya 7

Ndi nomboro dzifhio ntswa dzi no khou divhadzwa kha Kotara ya 2?

4 na 5

### Kotara ya 2 Vhege ya 5: U funza nomboro

Nomboro 'thanu' i divhadzwa kha Kotara ya 2 Vhege ya 5. Mbekanyamushumo ya Mbalo i tutuwedza u shumiswa ha nomboro kha nyimele dzo fhambanaho na u shumiswa ha u imela hunzhi, sa tsumbo, tshiga, ipfi, tshifanyiso, magarata a tshithoma, zwithu zwa u vhalela ngazwo, u vhandu zwanu. Ndowelo yo shumiswaho u divhadza nomboro inwe na inwe i tumanya vhagudi na ndowelo yo doweleaho, i humbuleleaho, i mvumvusaho na u kumedza nomboro nga ndila dzo fhambanaho.

### Notsi dza mutshimbidzi

- ◆ Kha vha humbele vhashelamulenzhe u humbula murahu uri vho divhadza hani nomboro vhegeni dzo fhiraho.
- ◆ Kha vha ambe nga uri ndowelo yeneyo i fanaho yo shumiswa hani u divhadza nomboro inwe na inwe ntswa. Kha vha talutshedze uri nomboro 'thanu' i divhadzwa kha Kotara ya 2 Vhege ya 5 hu tshi shumiswa ndowelo yeneyo i fanaho sa murahu. Kha vha haseledze uri ndowelo iyi i tumanya hani vhagudi kha u guda nga divhaipfi ya nomboro.
- ◆ Kha vha rumele vhashelamulenzhe kha siatari la 91 la *Nyendedzi ya Nyito: Kotara ya 2*.
- ◆ Kha vha ri vha fhedzise **Nyito ya 8** nga zwigwada vha koneha u vha murahu.

- ◆ Make sure that the following points about the routine are mentioned:
  - A story is told about an animal/s and used to build the number frieze.
  - Objects are collected to represent the number and put on the table in the maths area.
  - Learners match the number symbol and number word to dot cards, and also use a combination of dot cards to make the number.
  - Learners use body movements to dramatise the story.
  - The *Poster Book* provides opportunities to count and solve problems in context.
- ◆ The order of the items in the routine may change, but each week these aspects of introducing a number are included in the whole class activities.



### Activity 8

Refer to the Week 5 whole class activities in *Activity Guide: Term 2* (pages 90–99).

Describe the routine that is used to teach the number '5'.

Day 1

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Day 2

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Day 3

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Day 4

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Day 5

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- ◆ Kha vha vhone uri vha amba mbuno dzi tevhelaho nga ndowelo:
  - Tshiṭori tshi a anetshelwa nga ha phukha nahone tsha shumiswa u fhaṭa tshati ya luvhondoni ya mbalo.
  - Zwithu zwi a kuvhanganywa u itela u imela nomboro zwa vhewa nṭha ha ṭafula fhethu ha mbalo.
  - Vhagudi vha fanyisa tshiga tsha nomboro na ipfinomboro na magaraṭa a tshithoma, vha dovha hafhu vha shumisa phaṭhekanyo ya magaraṭa a tshithoma u ita nomboro.
  - Vhagudi vha shumisa misudzuluwo ya muvhili u ita tshiṭori sa ṭitambwa.
  - *Bugu ya Dziphositara* i ṅetshedza zwikhala zwa u vhalela na u tandulula thaidzo kha nyimele.
- ◆ U tevhkana ha zwithu kha ndowelo hu nga shanduka, fhedzi vhege inwe na inwe masia aya a u divhadza nomboro a katelwa kha mishumo ya kiṭasi yoṭhe.



## Nyito ya 8

Kha vha sedze kha mishumo ya kiṭasi yoṭhe i re kha Vhege ya 5 kha *Nyendedzi ya Nyito: Kotara ya 2* (masiaṭari a 90–99). Kha vha ṭaluse ndowelo ine ya shumiswa u funza nomboro '5'.

Duvha ṭa 1

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Duvha ṭa 2

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Duvha ṭa 3

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Duvha ṭa 4

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Duvha ṭa 5

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## The number washing line

### Facilitator's notes

- ◆ Find out if participants have set up number washing lines in their classrooms.
- ◆ Review the importance of the number washing line activities in helping learners to build an understanding of the sequence of counting words and the relationship between numbers.

The numbers 1 to 5 were pegged onto the number washing line in the maths area as they were introduced in Term 1. It is only in Week 5 that learners actively engage with the number washing line. Many teachers put up number lines from 0 to 10 or even to 20 in the classroom before learners are able to count or recognise these numbers.

Initially the Maths Programme's focus on the number washing line is incidental. From Week 5 it is used to focus on sequencing (ordering) numbers and talking about the relationship between numbers.

Use the number washing line to:

- ◆ order and compare numbers e.g.:
  - What number comes before 3?
  - What number is between 3 and 5?
  - What number comes after 4?
- ◆ explore how numbers increase from left to right, and decrease from right to left.
- ◆ use maths language such as *before*, *after*, *between*.

In the video the facilitator demonstrates a washing line activity that supports the teaching of number.

### Facilitator's notes

- ◆ Demonstrate how to use the number washing line.
- ◆ Refer participants to the washing line activity on page 94 of *Activity Guide: Term 2*.

Read the activity that introduces the washing line to learners on page 94 of *Activity Guide: Term 2*.



*Activity Guide: Term 2, Week 5, Day 3 #4 (page 94)*

Watch the video of the teacher using the number washing line to order the numbers 1 to 5. Notice how she scaffolds the activity and note the questions that she asks to prompt the learners.

## Muthambi wa u anea nomboro

### Notsi dza mutshimbidzi

- ◆ Kha vha vhudzise vhashelamulenzhe arali vho no vhuya vha dzudzanya muthambi wa u anea nomboro kilasini dzavho.
- ◆ Kha vha sedzuluse ndeme ya nyito dza muthambi wa u anea nomboro nga u thusa vhagudi u fhaṭa u pfesesa ha u tevhekana ha maipfi a u vhalela na vhushaka vhukati ha nomboro.

Nomboro 1 u ya kha 5 dzo phekwiswa kha muthambi wa u anea nomboro fhethu ha mbalo musi dzi tshi divhadzwa kha Kotara ya 1. Ndi kha Vhege ya 5 fhedzi hune vhagudi vha shuma na muthambi wa u anea nomboro. Vhagudisi vhanzhi vha ita mutalombalo u bva kha 0 u ya kha 10 kana u swika kha 20 ngomu kilasini phanda ha musi vhagudi vha tshi kona u vhalela kana u topola nomboro idzo.

Mathomoni u sedzesa ha Mbekanyamushumo ya Mbalo kha muthambi wa u anea nomboro ndi u guda hu no sokou itea. U bva kha Vhege ya 5 u shumiselwa u sedzesa kha u tevhekanya nomboro na u amba nga vhushaka vhukati ha nomboro.

Kha vha shumise muthambi wa u anea nomboro u:

- ◆ tevhekanya na u vhambedza nomboro, sa tsumbo:
  - Ndi nomboro ifhio idaho phanda ha 3?
  - Ndi nomboro ifhio i re vhukati ha 3 na 5?
  - Ndi nomboro ifhio idaho nga murahu ha 4?
- ◆ kha vha tandule uri nomboro dzi engedzea hani u bva kha monde u ya kha tshauḽa, na u fhungudzea u bva kha tshauḽa u ya kha monde.
- ◆ kha vha shumise luambo lwa mbalo u fana na *phanda ha, murahu ha, vhukati ha*.

Kha vidiyo mutshimbidzi u khou sumbedza nyito ya muthambi wa u anea ine ya tikedza u funza nomboro.

### Notsi dza mutshimbidzi

- ◆ Kha vha sumbedze uri muthambi wa u anea nomboro u shumiswa hani.
- ◆ Kha vha rumele vhashelamulenzhe kha nyito ya muthambi wa u anea i re kha siaṭari ḽa 95 ḽa *Nyendedzi ya Nyito: Kotara ya 2*.

Kha vha vhalele vhagudi nyito ine ya divhadza muthambi wa u anea i re kha siaṭari ḽa 95 ḽa *Nyendedzi ya Nyito: Kotara ya 2*.



### Vidiyo ya 2

*Nyendedzi ya Nyito: Kotara ya 2, Vhege ya 5, Duvha ḽa 3 #4 (siaṭari ḽa 95)*

Kha vha ṭalele vidiyo ya mugudisi a tshi khou shumisa muthambi wa u anea nomboro u itela u tevhekanya nomboro 1 u swika kha 5. Vha dzhieze nzhele uri u shumisa hani thekiniki dza u funza nyito nahone vha dzhieze nzhele mbudziso dzine a vhudzisa u itela u ṭuṭula vhagudi.

Discuss the value of using a number washing line in Grade R.

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**Sequencing numbers:** Learners place the numbers in the correct counting order. Learners see the number line each day and during incidental discussions talk about each number.

**Order:** Learners discuss the numbers in relation to each other. The teachers asks which number comes before, after or between other numbers. Learners use correct maths language to describe the position of the numbers in relation to each other.

## Structure beads

The structure beads in your *Resource Kit* come in lengths of 10 beads grouped in fives, according to colour (five red beads and five yellow beads).

### Facilitator's notes

- ◆ Discuss the 10-bead structure (five beads, five fingers). Demonstrate the use of a string of beads.
- ◆ Ask participants to take a set of 10 structure beads from the table.
- ◆ Using the information below, discuss the purpose of structure beads.

Structure beads help learners to:

- ◆ automatically recognise the number of beads in a group without counting, e.g. '4'.
- ◆ understand that one number may be a combination of two or more other numbers, e.g. '4' is made up of 2 and 2 or 1 and 3.
- ◆ develop skills in counting on from a given number, e.g. start at 3 and count on to 5.
- ◆ begin to work with addition and subtraction.
- ◆ begin to work with bonds of ten.

In this next activity, use your 10 structure beads to explore different number combinations. Follow your facilitator's lead and respond to the questions as set out in Activity 9.

Kha vha haseledze ndeme ya u shumisa muthambi wa u anea nomboro kha Gireidi ya T.

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**U tevhékanya nomboro:** Vhagudi vha vhea nomboro nga mutevhe wo teaho wa u vhalela. Vhagudi vha vhona mutalombalo ðuvha ðinwe na ðinwe nahone nga tshifhinga tsha khaseledzo dza u sokou itea kha vha ambe nga nomboro inwe na inwe.

**U tevhékana:** Vhagudi vha haseledza vhushaka vhukati ha nomboro. Mugudisi u vhudzisa uri ndi nomboro ifhio idaho phanda ha, nga murahu ha kana vhukati ha dziinwe nomboro. Vhagudi vha shumisa luambo lwo teaho lwa mbalo u tãalisa vhuimo ha nomboro hu tshi vhambedzwa na dziinwe.

## Vhulungu ha u vhalela

Vhulungu ha u vhalela vhu re ngomu ha *Khithi ya Zwishumiswa* vhu ða nga vhulapfu ha vhulungu ha 10 ho vhewa nga zwigwada zwa vhuãanu, u ya nga muvhala (vhulungu vhuãanu vhuãwuku na vhulungu vhuãanu ha tããa).

### Notsi dza mutshimbidzi

- ◆ Kha vha haseledze vhulungu ha u vhalela ha 10 (vhulungu vhuãanu, minwe miãanu). Kha vha sumbedze tshumiso ya muãali wa vhulungu.
- ◆ Kha vha humbele vhashelamulenzhe u dzhia sete ya vhulungu ha u vhalela ha 10 kha tãfula.
- ◆ Vha tshi shumisa mafhungo a re afho fhasi, kha vha haseledze ndivho ya vhulungu ha u vhalela.

Vhulungu ha u vhalela vhu thusa vhagudi u:

- ◆ topola nomboro dza vhulungu tshigwadani nga vhone vhane vha songo vhalela, sa tsumbo, '4'.
- ◆ pfesesa uri nomboro nthi i nga vha phaãhekanyo ya nomboro mbili kana dziinwe nanzhi, sa tsumbo, '4' yo vhumbwa nga 2 na 2 kana 1 na 3.
- ◆ bveledza zwikili zwa u vhalela u ya phanda u bva kha nomboro yo ñewaho, sa tsumbo, u thoma kha 3 vha vhalela u ya phanda u swika kha 5.
- ◆ thoma u shuma nga u tãganya na u tãusa.
- ◆ thoma u shuma nga nomboro dzine arali dzo tãganywa dza vhumba fumi.

Kha nyito i tevhelaho, kha vha shumise vhulungu ha u vhalela havho ha 10 u tandula phaãhekanyo dza nomboro dzo fhambanaho. Kha vha tevhete mutshimbidzi wavho vha fiindle mbudziso sa zwe dza vhudziswa kha Nyito ya 9.



### Activity 9

1. Show me two beads.
2. Show me one more bead.
3. Show me one fewer than four beads.
4. Show me four beads. Now show me one more than four. How many do you have?
5. What did you do to make it one more?
6. Show me one fewer than five. How many do you have?
7. What did you do to make it one less?
8. Now take one away. How many do you have?
9. Add one. How many do you have?

Read the activity that introduces the structure beads to learners on page 100 of *Activity Guide: Term 2*, step 3. In groups, discuss this activity.

#### Facilitator's notes

- ◆ Explain that participants will now work with their beads and that they should follow your directions and write down their responses.
- ◆ Ask them to work in groups to complete **Activity 10**.



### Activity 10

How does this structure bead activity help to develop the learners' number sense?

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Learners begin to show a total number of beads (e.g. 3) without having to count in ones.

They are able to show 'one more' or 'one fewer' than a stated amount without counting.

Learners recognise that one number is made up of different combinations of numbers (e.g. 5 consists of 2 and 3, or 1 and 2 and 2).

They begin to use the language of addition and subtraction and apply the concepts to combine/separate groups without counting.

The structure beads provide a physical experience of the total number of beads.



## Nyito ya 9

1. Kha vha ntsumbedze vhulungu vhuvhili.
2. Kha vha ntsumbedze vhulungu vhuṅwe vhuthihi.
3. Kha vha ntsumbedze vhulungu vhuṅku nga vhuthihi kha vhulungu vhuṅa.
4. Kha vha ntsumbedze vhulungu vhuṅa. Zwino kha vha ntsumbedze vhunzhi kha vhuṅa nga vhuthihi. Vha na vhungana zwino?
5. Vho ita mini uri vhu vhe vhunzhi nga vhuthihi?
6. Kha vha ntsumbedze vhuṅku nga vhuthihi kha vhuṅanu. Vha na vhulungu vhungana?
7. Vho ita mini uri vhu vhe vhuṅku nga vhuthihi?
8. Zwino kha vha ṅuse vhuthihi. Vha na vhungana?
9. Kha vha engedze vhuthihi. Vha na vhungana?

Kha vha vhalele vhagudi nyito ine ya ḍivhadza vhulungu ha u vhalela i re kha siaṅari ḷa 101 ḷa *Nyendedzi ya Nyito: Kotara ya 2, ḷiga ḷa 3*. Nga zwigwada, kha vha haseledze nyito iyi.

### Notsi dza mutshimbidzi

- ◆ Kha vha ṅalutshedze uri vhashelamulenzhe zwino vha ḍo shuma nga vhulungu havho na uri vha fanela u tevhela ndaela dzavho vha ṅwale phindulo dza vhone vhaṅe.
- ◆ Kha vha vha humbele u shuma nga zwigwada u fhedzisa **Nyito ya 10**.



## Nyito ya 10

Nyito iyi ya vhulungu ha u vhalela i thusa hani u bveledza ṅdivho ya nomboro ya vhagudi?

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Vhagudi vha thoma u sumbedza ṅhanganyelo ya vhulungu (sa tsumbo 3) vha songo vhalela nga vhuthihivhuthihi.

Vha kona u sumbedza 'vhunzhi nga vuhuhi' kana 'vhuṅku nga vhuthihi' u fhira tshivhalo tsho bulwaho vha songo vhalela.

Vhagudi vha kona u topola uri nomboro nthihi yo vhumbeba nga phaṅhekanyo dzo fhambanaho dza nomboro (sa tsumbo, 5 yo vhumbeba nga 2 na 3, kana 1 na 2 na 2).

Vha thoma u shumisa luambo lwa u ṅanganya na u ṅusa na u shumisa ḍivhaipfi u paṅekanya/u fhambanyisa zwigwada vha songo vhalela.

Vhulungu ha u vhalela vhu ṅetshedza tshenzhemo i vhonevho ya ṅhanganyelo ya tshivhalo tsha vhulungu.

### Facilitator's notes

- ◆ Discuss the importance of planning in order to allow learners enough time to practise their new skills and knowledge (the **practice principle**).

The **practice principle**: Learners should have plenty of time to practise new skills and knowledge. When learners get regular practice in what they have already learnt, they get better at it and become more confident. They enjoy repetition and practice.

## Term 2 Content Summary (Week 5)

### Facilitator's notes

- ◆ Remind participants that they also need to plan free choice activities that are linked to the concepts being taught in the week.



### Activity 11

Refer to Appendix A: Term 2 Weekly Content Summary (Weeks 4–7). Read the content overview for Week 5: Numbers, Operations and Relationships on page 18 of *Activity Guide: Term 2*.

1. What are the topics for Week 5?

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2. What new knowledge is introduced in this week?

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3. What skills from previous weeks are practised?

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4. Match the activities in Appendix A: Term 2 Weekly Content Summary (Weeks 4–7) with the lessons in each week.



### Notsi dza mutshimbidzi

- ◆ Kha vha haseledze ndeme ya u pulana u itela u tendela vhagudi tshifhinga tshinzhi tsha u ita ndowedzo ya zwikili zwiswa zwavho na ndivho (**mulayo wa ndowedzo**).

**Mulayo wa ndowedzo:** Vhagudi vha fanela u vha na tshifhinga tshinzhi tsha u ita ndowedzo ya zwikili zwiswa na ndivho. Musi vhagudi vha tshi ita ndowedzo tshifhinga tshoṭhe ya zwithu zwine vho no ḡi zwi guda, vha vha khwine khazwo nahone vha vha na vhuḡifulufheli. Vha ḡiphina nga ndovhololo na ndowedzo.

## Manweledzo a Magudiswa a Kotara ya 2 (Vhege ya 5)

### Notsi dza mutshimbidzi

- ◆ Kha vha humbudze vhashelamulenzhe uri vha fanela u pulana nyito dza u ḡinangela dzine dzi na vhuṭumani na ḡivhaipfi i no khou funzwa vhege yeneyo.



### Nyito yo 11

Kha vha lavhelese kha Ṭhumetshedzo ya A: Manweledzo a Magudiswa a Vhege nga Vhege a Kotara ya 2 (Vhege ya 4–7). Kha vha vhale manweledzo a magudiswa a Vhege ya 5: Nomboro, Tswayo na Vhushaka kha siaṭari ḡa 19 ḡa *Nyendedzi ya Nyito: Kotara ya 2*.

1. Ndi thero dzifhio dza Vhege ya 5?

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2. Ndi ndivho ntswa ifhio ine ya khou ḡivhadzwa kha vhege ino?

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3. Ndi zwikili zwifhio u bva kha vhege dzo fhelaho zwine ha khou itwa ndowedzo yazwo?

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4. Kha vha fanyise nyito dzi re kha Ṭhumetshedzo ya A: Manweledzo a Magudiswa a Vhege nga Vhege a Kotara ya 2 (Vhege ya 4–7) na ngudo dza vhege inwe na inwe.

# Session 3: Patterns, Functions and Algebra 1 hour

The focus of Term 2 Week 6 is Patterns, Functions and Algebra.

## Facilitator's notes

- ◆ Explain that the focus in Term 2 Week 6 is on Patterns, Functions and Algebra. Remind participants that this was also the focus of Term 1 Week 6 (covered in Workshop 3).
- ◆ Refer participants to page 124 of the *Concept Guide*.
- ◆ Ask participants to work in groups to complete **Activity 12**.

## Term 2 Content overview: Patterns, Functions and Algebra

Refer to Patterns, Functions and Algebra in the content overview (*Concept Guide*, page 124).



### Activity 12

1. What concepts are covered in Term 2?

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

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## Term 2 Week 6: Describe, copy and extend patterns

In Workshop 3, the focus of Patterns, Functions and Algebra was on recognising/identifying the repeat in a pattern. We also discussed the difference between a sequence and a pattern. Term 2 Week 6 builds on the content introduced in Term 1 Week 6.

In Term 2 Week 6 learners:

- ◆ describe the repeat in patterns using objects, pictures and sounds.
- ◆ copy patterns that others have made with objects, pictures and sounds.
- ◆ extend patterns that others have made.
- ◆ create their own patterns at various levels of difficulty such as:

# Dzulo la 3: Phetheni, Fankisheni na Alidzhebura

Awara 1

Kotara ya 2 Vhege ya 6 yo sedzesa kha Phetheni, Fankisheni na Alidzhebura.

## Notsi dza mutshimbidzi

- ◆ Kha vha talutshedze uri Kotara ya 2 Vhege ya 6 yo sedzesa kha Phetheni, Fankisheni na Alidzhebura. Kha vha humbudze vhashelamulenzhe uri izwi zwo vha zwo sedzeswa hafhu kha Kotara ya 1 Vhege ya 6 (zwo kwamiwa kha Wekishopo ya 3).
- ◆ Kha vha rumele vhashelamulenzhe kha siaṭari la 125 la *Nyendedzi ya Divhaipfi*.
- ◆ Kha vha humbele vhashelamulenzhe u shuma nga zwigwada u fhedzisa **Nyito ya 12**.

## Manweledzo a magudiswa a Kotara ya 2: Phetheni, Fankisheni na Alidzhebura

Kha vha sedze kha Phetheni, Fankisheni na Alidzhebura kha manweledzo a magudiswa (*Nyendedzi ya Divhaipfi*, siaṭari la 125).



### Nyito ya 12

1. Ndi divhaipfi ifhio yo kwamiwaho kha Kotara ya 2?

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2. Ndi phambano dzifhio dzi re vhukati ha Mbekanyamushumo ya Mbalo na magudiswa a TSHIPHOKHALI?

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## Kotara ya 2 Vhege ya 6: U talusa, u kopa na u engedza phetheni

Kha Wekishopo ya 3, u sedzesa kha Phetheni, Fankisheni na Alidzhebura zwo vha zwi kha u divha/u topola ndovhololo kha phetheni. Ro dovha hafhu ra haseledza phambano vhukati ha thevhekano na phetheni. Kotara ya 2 Vhege ya 6 zwi fhaṭa kha magudiswa o divhadzwaho kha Kotara ya 1 Vhege ya 6.

Kha Kotara ya 2 Vhege ya 6 vhagudi vha:

- ◆ talusa ndovhololo kha phetheni vha tshi shumisa zwithu, zwifanyiso na mibvumo.
- ◆ kopa phetheni dze vhañwe vha ita nga zwithu, zwifanyiso na mibvumo.
- ◆ engedza phetheni dze vhañwe vha ita.
- ◆ sika phetheni dza vhone vhañe kha levele dzi konḁaho dzo fhambanaho u fana na:

- circle, square; circle, square
  - circle, square, triangle; circle, square, triangle
  - circle, circle, square; circle, circle, square
  - red circle, blue circle, yellow square; red circle, blue circle, yellow square.
- ◆ tell what is missing when part of a pattern is hidden.

### Facilitator's notes

- ◆ Think back to Workshop 3: Identifying patterns. Use the attribute blocks and the *Poster Book*. Discuss the difference between a sequence of objects, pictures or events, and what makes a pattern. Remind participants that a pattern requires the repeating of a sequence. Demonstrate this aspect.
- ◆ Have participants work in groups to complete **Activity 13**.



### Activity 13

Refer to Week 6 in *Activity Guide: Term 2* (pages 104–119).

1. Discuss how the whole class activities present lessons on pattern.

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Identifying patterns, using whole body, identifying patterns in the *Poster Book* picture.

Copy and extend own and others' patterns.

Explain why it is a pattern or not a pattern.

2. Read steps 5 and 6 of the teacher-guided activity on page 116. How does the teacher scaffold the activities and guide the learners with questions?

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## Term 2 Content Summary (Week 6)

### Facilitator's notes

- ◆ Ensure that participants make the connection between CAPS and the weekly planning for Week 6, e.g. the Topic and Term 2 content are from CAPS, with some additional content added for the Maths Programme.
- ◆ Discuss why number is also included in a week where the focus is Patterns, Functions and Algebra. Explain that although the content focus is on pattern, we need to practise number every day through whole class and teacher-guided activities.
- ◆ Remind participants to include all concepts incidentally during the daily programme, e.g. the sequence of activities in the daily programme and days of the week are measurement concepts (time), while lining up – first, second, third – are number concepts (ordinal numbers).

- tshitendeledzi, tshikwea; tshitendeledzi, tshikwea
- tshitendeledzi, tshikwea, tshofunderaru; tshitendeledzi, tshikwea, tshofunderaru
- tshitendeledzi, tshitendeledzi, tshikwea; tshitendeledzi, tshitendeledzi, tshikwea
- tshitendeledzi tshitswuku, tshitendeledzi tsha lutombo, tshikwea tsha t̄aḁa;  
tshitendeledzi tshitswuku, tshitendeledzi tsha lutombo, tshikwea tsha t̄aḁa.

◆ Kha vha bule uri hu khou t̄ahela mini musi tshipiḁa tsha phetheni tsho dzumbiwa.

### Notsi dza mutshimbidzi

- ◆ Kha vha humbule murahu kha Wekishopo ya 3: U topola phetheni. Kha vha shumise zwibuḁoko zwa zwidodombedzwa na *Bugu ya Dziphositara*. Kha vha haseledze phambano vhukati ha thevhekano ya zwithu, zwifanyiso kana zwiwo, na zwine zwa ita phetheni. Kha vha humbudze vhashelamulenzhe uri phetheni i t̄oḁa ndovhololo ya thevhekano. Kha vha sumbedze izwi.
- ◆ Kha vha ri vhashelamulenzhe vha shume nga zwigwada u fhedzisa **Nyito ya 13**.



### Nyito ya 13

Kha vha sedze kha Vhege ya 6 ngomu ha *Nyendedzi ya Nyito: Kotara ya 2* (masiat̄ari a 104–119).

1. Kha vha haseledze uri mishumo ya kilasi yoḁhe i kumedza hani ngudo kha phetheni.

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U topola phetheni, u shumisa muvhili woḁhe, u topola phetheni kha tshifanyiso tshi re ngomu ha *Bugu ya Dziphositara*.

U kopa na u engedza phetheni dzavho na dza vhaḁwe.

U t̄alutshedza uri ndi ngani i phetheni kana i si phetheni.

2. Kha vha vhale liga ḁa 5 na 6 a nyito yo rangwaho phanḁa nga mugudisi kha siat̄ari ḁa 117. Mugudisi u shumisa hani thekiniki dza u funza kha nyito na u endedza vhagudi nga mbudziso?

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### Manweledzo a Magudiswa a Kotara ya 2 (Vhege ya 6)

#### Notsi dza mutshimbidzi

- ◆ Kha vha vhone uri vhashelamulenzhe vha ita vhuḁumani vhukati ha TSHIPHOKHALI na vhupulani ha vhege nga vhege ha Vhege ya 6, sa tsumbo, Thero na magudiswa a Kotara ya 2 zwi bva kha TSHIPHOKHALI, ngeno maḁwe magudiswa a u engedza o engedzwa u itela Mbekanyamushumo ya Mbalo.
- ◆ Kha vha haseledze uri ndi ngani nomboro yo katelwa kha vhege ine ho sedzwa Phetheni, Fankisheni na Al̄idzhebura. Kha vha t̄alutshedze uri naho magudiswa o sedzwaho e kha phetheni, ri fanela u ita ndowedzo ya nomboro ḁuvha ḁiḁwe na ḁiḁwe nga nyito dza kilasi yoḁhe na dzo rangwaho phanḁa nga mugudisi.
- ◆ Kha vha humbudze vhashelamulenzhe u katela ḁivhaipfi yoḁhe nga u sokou guda nga tshifhinga tsha mbekanyamushumo ya ḁuvha ḁiḁwe na ḁiḁwe, sa tsumbo, thevhekano ya nyito kha mbekanyamushumo ya ḁuvha ḁiḁwe na ḁiḁwe na maḁuvha a vhege ndi muelo wa ḁivhaipfi (tshifhinga), ngeno u tevhekanya – mathomo, vhuvhili, vhuraru – hu ḁivhapfi ya nomboro (nomboro thevhekano).



### Activity 14

Refer to Appendix A: Term 2 Weekly Content Summary (Weeks 4–7). Read the content overview for Week 6: Patterns, Functions and Algebra on page 20 of *Activity Guide: Term 2*.

1. What are the topics for Week 6?

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2. What new knowledge is introduced in this week?

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3. What skills from previous weeks are practised?

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4. Match the activities in Appendix A: Term 2 Weekly Content Summary (Weeks 4–7) with the lessons in each week.



## Nyito ya 14

Kha vha lavhelese kha Thumetshedzo ya A: Manweledzo a Magudiswa a Vhege nga Vhege a Kotara ya 2 (Vhege ya 4–7). Kha vha vhale manweledzo a magudiswa a Vhege ya 6: Phetheni, Fankisheni na Alidzhebura kha siaṭari la 21 la *Nyendedzi ya Nyito: Kotara ya 2*.

1. Ndi thero dzifhio dza Vhege ya 6?

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2. Ndi ndivho ntswa ifhio ine ya khou divhadzwa kha vhege ino?

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3. Ndi zwikili zwifhio u bva kha vhege dzo fhelaho zwine ha khou itwa ndowedzo yazwo?

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4. Kha vha fanyise nyito dzi re kha Thumetshedzo ya A: Manweledzo a Magudiswa a Vhege nga Vhege a Kotara ya 2 (Vhege ya 4–7) na ngudo dza vhege inwe na inwe.

# Session 4: Data Handling

1 hour

The focus of Term 2 Week 7 is Data Handling.

## Facilitator's notes

- ◆ Explain that the focus in Term 2 Week 7 is on Data Handling. Remind participants that this was also the focus of Term 1 Week 10 (covered in Workshop 4).
- ◆ Refer participants to page 136 of the *Concept Guide*.
- ◆ Ask participants to work in groups to complete **Activity 15**.

## Term 2 Content overview: Data Handling

Refer to Data Handling in the content overview (*Concept Guide*, page 136).



### Activity 15

1. What concepts are covered in Term 2?

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

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## Facilitator's notes

- ◆ Explain to participants that the Data Handling Content Area for Grade R focuses on the purpose and process of data handling. It involves solving a problem or answering a question by collecting, sorting, representing and interpreting data.
- ◆ Collecting and sorting (classifying) data is only part of the data handling process. If teachers do not keep the focus on answering the question, the activity is simply about sorting.
- ◆ Direct participants to follow the data handling process and name the different steps in the process:
  1. Pose a question.
  2. Collect the data (discuss the best way of doing this).
  3. Sort the data.
  4. Represent that data.
  5. Analyse the data.
  6. Report on the data (answer the question).
- ◆ Let participants to work in groups to complete **Activity 16**.
- ◆ Ask one group to present their activity.



# Dzulo la 4: U shuma na Data

Awara 1

Kotara ya 2 Vhege ya 7 yo sedzesa kha U shuma na Data.

## Notsi dza mutshimbidzi

- ◆ Kha vha talutshedze uri Kotara ya 2 Vhege ya 7 yo sedzesa kha U shuma na Data. Kha vha humbudze vhashelamulenzhe uri izwi zwo vha zwo sedzeswa hafhu kha Kotara ya 1 Vhege ya 10 (zwo kwamiwa kha Wekishopo ya 4).
- ◆ Kha vha rumele vhashelamulenzhe kha siaṭari la 137 la *Nyendedzi ya Divhaipfi*.
- ◆ Kha vha humbele vhashelamulenzhe u shuma nga zwigwada u fhedzisa **Nyito ya 15**.

## Manweledzo a Magudiswa a Kotara ya 2: U shuma na Data

Kha vha sedze kha U shuma na Data kha manweledzo a magudiswa (*Nyendedzi ya Divhaipfi*, siaṭari la 137).



### Nyito ya 15

1. Ndi divhaipfi ifhio yo kwamiwaho kha Kotara ya 2?

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2. Ndi phambano ifhio i re hone vhukati ha magudiswa a Mbekanyamushumo ya Mbalo na magudiswa a TSHIPHOKHALI?

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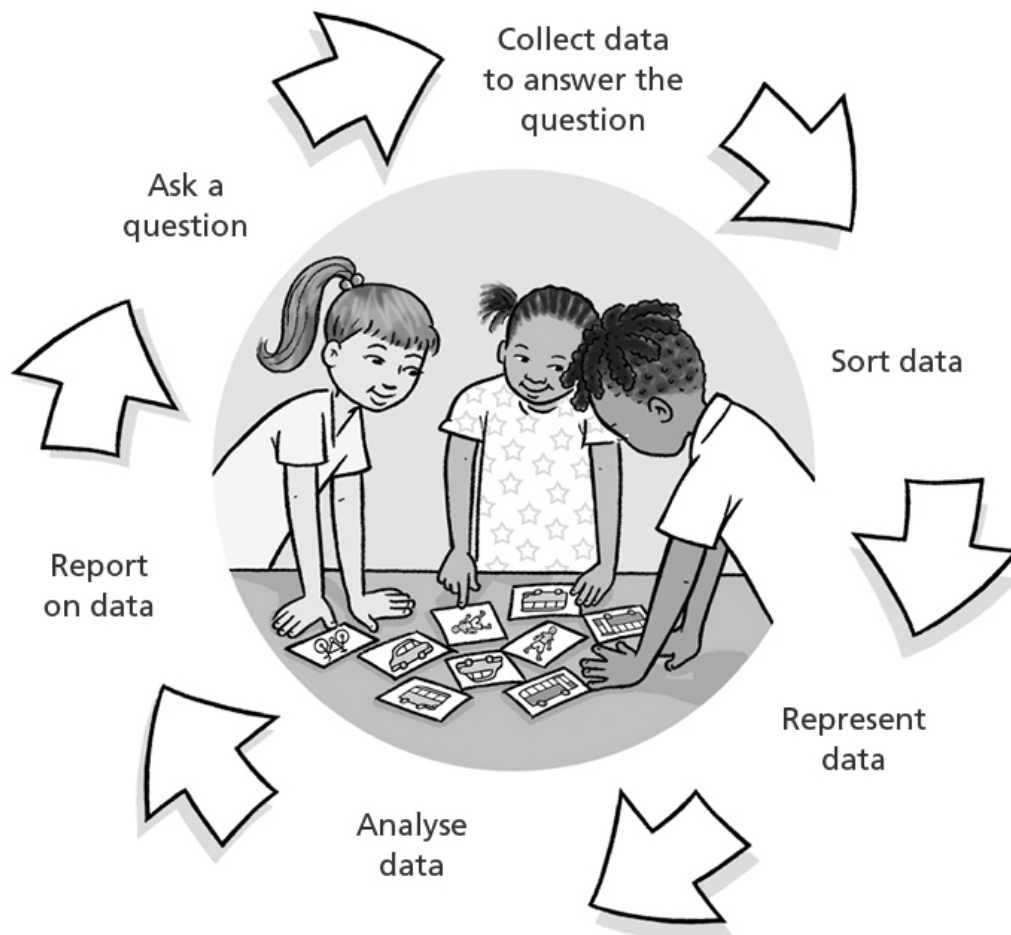
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## Notsi dza mutshimbidzi

- ◆ Kha vha talutshedze vhashelamulenzhe uri Sia la Magudiswa la U shuma na Data la Gireidi ya T li sedzesa kha ndivho na maitele zwa u shuma na data. Zwi katela u tandulula thaidzo kana u fhindula mbudziso nga u kuvhanganya, u vhekanya, u imela na u talutshedza data.
- ◆ U kuvhanganya na u vhekanya (u khethekanya) data ndi tshipiḁa tsha maitele a u shuma na data. Arali vhagudisi vha sa sedzesa kha u fhindula mbudziso, nyito i tou vha nga ha u vhekanya.
- ◆ Kha vha nee ndaela vhashelamulenzhe u tevhela maitele a u shuma na data na u bula maga o fhambanaho kha maitele ayo:
  1. Kha vha vhudzise mbudziso.
  2. Kha vha kuvhanganye data (kha vha haseledze ndila ya khwinesa ya u ita izwi).
  3. Kha vha vhekanye data.
  4. Kha vha imele data.
  5. Kha vha saukanye data.
  6. Kha vha vhige nga data (kha vha fhindule mbudziso).
- ◆ Kha vha ri vhashelamulenzhe vha shume nga zwigwada u fhedzisa **Nyito ya 16**.
- ◆ Kha vha humbele tshigwada tshithihi u kumedza nyito yatsho.

## Data Handling

The Data Handling Content Area focuses on the purpose and process of handling data. It involves solving a problem or answering a question by collecting, sorting, representing and interpreting data.



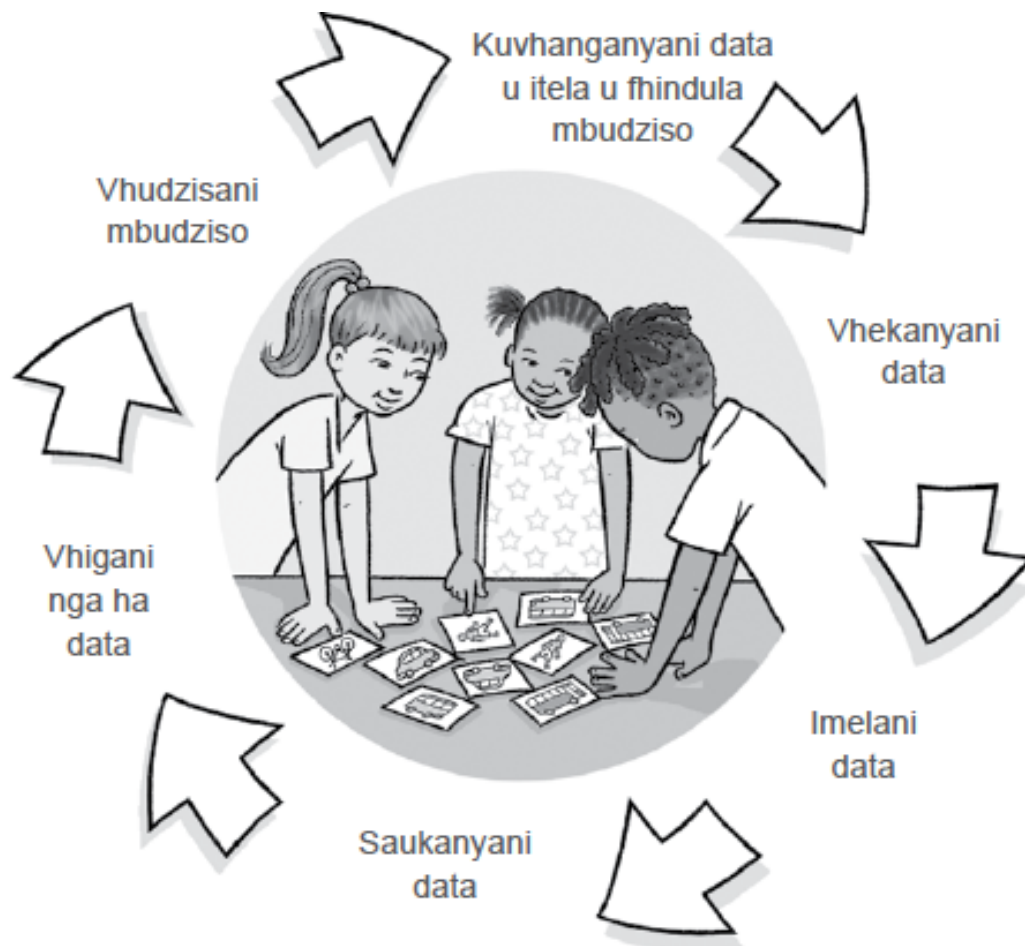
In Grade R learners should have many opportunities to sort objects according to one or more attributes, such as colour, size or shape. Sorting is part of Data Handling, but it is not the only focus. It is important to always bring the learners back to the question that has been posed and the reason why they are collecting, sorting and thinking of ways to represent the data.

Questions are key to Data Handling, e.g.:

- ◆ I wonder which coldrink most learners like?
- ◆ How should we collect our data?

## U shuma na Data

Sia ła Magudiswa ła U shuma na Data ła sedzesa kha ndivho na maitela a u shuma na data. Łi katela u tandulula thaidzo kana u fhindula mbudziso nga u kuvhanganya, u vhekanya, u imela na u łalutshedza data.



Kha Gireidi ya T̄ vhagudi vha fanela u vha na zwikhala zwinzhi zwa u vhekanya zwithu u ya nga tshidodombedzwa tshithihi kana zwinzhi, u fana na muvhala, saizi kana tshivhumbeo. U vhekanya ndi tshipiđa tsha U shuma na Data, fhedzi a si zwone zwi zwołhe zwo sedzeswaho. Ndi zwa ndeme tshifhinga tshołhe u vhuisa vhagudi murahu kha mbudziso ye ya vhudziswa na tshiitisi tsha uri ndi ngani vha tshi khou kuvhanganya, u vhekanya na u humbula nga nđila dza u imela data.

Mbudziso ndi dza ndeme kha U shuma na Data, sa tsumbo:

- ◆ Ndi a đivhudzisa uri ndi nyamunaithi ifhio i no funeswa nga vhagudi vhanzhi?
- ◆ Ri fanela u kuvhanganya hani data yashu?

- ◆ How should we sort the data?
- ◆ How should we represent the data?



### Activity 16

Discuss how you could plan and implement a Data Handling activity based on the above questions. Record your ideas on flipchart paper.

### Representing data

Grade R learners explore different ways of showing or displaying the information they have collected. A **pictograph** is a way of representing data using pictures. In the whole class activity on Day 3 of Week 7, learners discuss how they come to school. Each learner is given a smiley face on **exactly the same size piece of paper**. They display the data by putting their picture in a column to represent four different means of transport. It is important to place the data in the columns, **without spaces** between the pieces of paper. The data is clearly represented and easy to interpret in order to answer the question: 'How do most learners come to school?'

## Term 2 Content Summary (Week 7)



### Activity 17

Refer to Appendix A: Term 2 Weekly Content Summary (Weeks 4–7). Read the content overview for Week 7: Data Handling on page 20 of *Activity Guide: Term 2*.

1. What are the topics for Week 7?

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2. Ndi ndivho ntswa ifhio i no khou divhadzwa kha ino vhege?

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3. What skills from previous weeks are practised?

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- ◆ Ri fanela u vhekanya hani data?
- ◆ Ri fanela u imela hani data?



### Nyito ya 16

Kha vha haseledze uri vha nga pulana hani na u thoma nyito ya U shuma na Data vho ḁisendeka nga mbudziso dzi re afho nḁha. Kha vha rekhode mihumbulo yavho kha bammbiri ḁa filipitshati.

#### U imela data

Vhagudi vha Gireidi ya Ḥ vha tandula nḁila dzo fhambanaho dza u sumbedza kana u ḁana mafhungo e vha kuvhanganya. **Girafu ya zwifanyiso** ndi nḁila ya u imela data hu tshi shumiswa zwifanyiso. Kha mushumo wa kilasi yoḁhe nga Ḁuvha ḁa 3 ḁa Vhege ya 7, vhagudi vha haseledza uri vha ḁisa hani tshikoloni. Mugudi muḁwe na muḁwe u nḁewa tshifhaḁuwo tshi mwemwelaho kha **tshipiḁa tsha bammbiri ḁa saizi i fanaho kokotolo**. Vha ḁana data nga u vhea zwifanyiso zwavho kha khoḁumu u itela u imela tshakha nḁa dzo fhambanaho dza vhuendi. Ndi zwa ndeme u vhea data kha khoḁumu, **hu si na zwikhala** vhukati ha zwipiḁa zwa bammbiri. Data i vha yo imelwa zwavhuḁi nahone yo leluwa u i ḁalutshedzela u itela u fhindula mbudziso: ‘Vhagudi vhanzhi vha ḁisa hani tshikoloni?’.

### Manweledzo a Magudiswa a Kotara ya 2 (Vhege ya 7)



### Nyito ya 17

Kha vha lavhelese kha Ḥthumetshedzo ya A: Manweledzo a Magudiswa a Vhege nga Vhege a Kotara ya 2 (Vhege ya 4–7). Kha vha vhale manweledzo a magudiswa a Vhege ya 7: U shuma na Data kha siaḁari ḁa 21 ḁa *Nyendedzi ya Nyito: Kotara ya 2*.

1. Ndi thero dzifhio dza Vhege ya 7?

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2. Ndi nḁivho ntswa ifhio ine ya khou ḁivhadzwa kha vhege ino?

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3. Ndi zwikili zwifhio u bva kha vhege dzo fhelaho zwine ha khou itwa nḁowedzo yazwo?

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4. Match the activities in Appendix A: Term 2 Weekly Content Summary (Weeks 4–7) with the lessons in each week.
5. Refer to the teacher-guided activity in Week 7 (*Activity Guide: Term 2*, page 132). Discuss how the teacher guides the learners to sort the animals and then represent the data on a grid.

4. Kha vha fanyise nyito dzi re kha Thumetshedzo ya A: Manweledzo a Magudiswa a Vhege nga Vhege a Kotara ya 2 (Vhege ya 4–7) na ngudo kha vhege inwe na inwe.
5. Kha vha sedze nyito yo rangwaho phanda nga mugudisi kha Vhege ya 7 (*Nyendedzi ya Nyito: Kotara ya 2, siatari la 133*). Kha vha haseledze uri mugudisi u endedza hani vhagudi u vhekanya phukha a konaha u imela data kha giridi.

# Closing activities

1 hour

## Facilitator's notes

- ◆ **Lessons learnt:** Ask participants to think about what they have learnt during the workshop and to complete **Activity 18** individually.
- ◆ **Take back to school task:** Read through this task. Ask if there is anything that is not clear and that requires more explanation.
- ◆ **Evaluation:** Hand out copies of the Workshop Evaluation Form and have participants complete the form.
- ◆ **Next workshop:** Give dates for the next workshop and close the workshop.



## Activity 18

**Lessons learnt:** Think about what you learnt during the workshop and complete the table.

Things I am already doing that work well	New ideas that I would like to try



### Take back to school task

1. 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 have used for maths assessment to the next workshop.
4. Bring a completed assessment record for one learner to the next workshop.



## Notsi dza mutshimbidzi

- ◆ **Ngudo dzo gudwaho:** Kha vha humbele vhashelamulenzhe u humbula nga zwe vha guda nga tshifhinga tsha wekishopo na uri vha fhedzise **Nyito ya 18** nga muthihimuthihi
- ◆ **Mushumo wa u tuwa nawo tshikoloni:** Kha vha vhale mushumo uyu. Kha vha vhudzise arali hu na zwiñwe zwi sa pfali zwine zwa toḁa u ṭalutshedzwa.
- ◆ **U linga:** Kha vha phakhele khophi dza Fomo ya u Linga ya Wekishopo vha ri vhashelamulenzhe vha ḁadze idzo fomo.
- ◆ **Wekishopo i tevhelaho:** Kha vha ṅee maḁuvha a wekishopo i tevhelaho vha vale wekishopo.



### Nyito ya 18

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

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



### Mushumo wa u tuwa nawo tshikoloni

1. Kha vha bvele phanḁa na u shumisa Rekhodo ya U linga hu yaho phanḁa kha *Nyendedzi ya Nyito: Kotara ya 2* u itela u linga vhagudi vhavho. Kha vha shumise notsi dzavho dza u sedza hu bvelaho phanḁa u fhaṭa vhuṭanzi ha zwine vhagudi vha pfesesa na zwine vha nga ita.
2. Kha vha topole mbilaelo dziñwe na dziñwe dzine vha vha nadzo nga mugudi nga eṭhe dza u guda u fara ḁivhaipfi ya mbalo.
3. Kha vha ḁise khophi dza ruburiki dze vha dzi shumisa u itela u linga mbalo kha wekishopo i tevhelaho.
4. Kha vha ḁe na rekhodo ya u linga yo ḁadzwaho ya mugudi muthihi kha wekishopo i tevhelaho.

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.

### **Evaluation**

Complete the Evaluation Form.

5. Kha vha shumise *Nyendedzi ya Nyito: Kotara ya 2* u itela u pulana na u thoma Vhege ya 4–7 dza Mbekanyamushumo ya Mbalo, hu tshi katelwa na u sika fhethu ha mbalo ho sedzeswa kha divhaipfi ya vhege inwe na inwe.
6. Kha vha ite notsi nga zwe zwa shuma zwavhuḏi, zwe zwa zwi shume zwavhuḏi na zwine vha nga ita nga inwe ndila yo fhambanaho u khwinisa u funza na u guda.

### **U linga**

Kha vha ḏadze Fomo ya u Linga.

## APPENDIX A: TERM 2 WEEKLY CONTENT SUMMARY (WEEKS 4-7)

### Term 2: Activity Plan

Week 4				
<b>CONTENT AREA: SPACE AND SHAPE (GEOMETRY)</b>				
<b>TOPIC: Position, orientation and views; describes, sorts and compares 3-D objects</b>				
<b>INTRODUCE NEW KNOWLEDGE:</b> Sort 3-D objects according to similarities and differences, one more, one less				
<b>PRACTISE:</b> Oral counting 1-15 and 5-1, counting objects 1-7, number concept 1-4, reinforce all shapes				
Whole class activities		Teacher-guided activity	Workstation activities	
<b>Day 1</b>	Reinforce all shapes/shape hunt.	Practise 1-4.	<b>Activity 1</b>	A circle/square/triangle can also be a ... (create a picture).
<b>Day 2</b>	Feely bag – feel different shapes and describe them.	Describing an object from different positions.	<b>Activity 2</b>	Make shapes using cookie cutters and playdough.
<b>Day 3</b>	Find shapes in class using position words.	Practising shapes and positions.	<b>Activity 3</b>	Block construction – use blocks/Unifix blocks.
<b>Day 4</b>	Shape detectives. One more, one less.		<b>Activity 4</b>	Puzzles (minimum of 12 pieces).
<b>Day 5</b>	Direction and position. Obstacle course.			
Week 5				
<b>CONTENT AREA: NUMBERS, OPERATIONS AND RELATIONSHIPS</b>				
<b>TOPIC: Recognise number symbols and number words; describes, orders and compares numbers</b>				
<b>INTRODUCE NEW KNOWLEDGE:</b> Introduce number 5				
<b>PRACTISE:</b> Oral counting 1-15, counting objects 1-7, count backwards from 5 (rhymes), reinforce number concept 1-4, sequencing numbers 1-4, more/fewer				
Whole class activities		Teacher-guided activity	Workstation activities	
<b>Day 1</b>	Introduce 5 (5 monkeys in the fifth house).	Match number symbols, number words and dot cards (4 and 5).	<b>Activity 1</b>	Playdough mat 5.
<b>Day 2</b>	Reinforce 4 and 5 (number symbols and number words).	Counting 1-7.	<b>Activity 2</b>	Ladybird numbers (roll correct number of paper balls).
<b>Day 3</b>	Counting forward and backwards. Number line.	Estimate and count. Structure beads.	<b>Activity 3</b>	Number matching – pegs.
<b>Day 4</b>	Reinforce 4 and 5.	Different configurations of the same number.	<b>Activity 4</b>	Number puzzles to 5 (using number words).
<b>Day 5</b>	Reinforce numbers 1-5 (dot cards, number symbols, number words to recognise).			

**THUMETSHEDZO YA A: MANWELEDZO A MAGUDISWA A VHEGE NGA VHEGE A KOTARA YA 2 (VHEGE YA 4-7)**

**Kotara ya 2: Pulane ya Nyito**

Vhege ya 4				
<b>SIA LA MAGUDISWA: TSHIKHALA NA TSHIVHUMBEO (DZHOMETIRI)</b>				
<b>THERO: Vhuimo, orienthesheni na mihumbulo; u talusa, u vhekanya na u vhambedza zwithu zwa 3-D</b>				
<b>KHA VHA DIVHADZE NDIVHO NTSWA:</b> U vhekanya zwithu zwa 3-D u ya nga zwi fanaho na zwo fhambanaho, zwinzhi nga tshithihi, zwiṭuku nga tshithihi				
<b>NDOWEDZO:</b> U vhalela ha mutevhetsindo 1-15 na 5-1, u vhalela zwithu 1-7, divhaipfi ya nomboro 1-4, u khwaṭhisedza zwivhumbeo zwoṭhe				
Nyito dza kilasi yoṭhe		Nyito yo rangwaho phanda nga mugudisi	Nyito dza tshithini tsha u shumela	
<b>Duvha la 1</b>	U khwaṭhisedza zwivhumbeo zwoṭhe /u zwima tshivhumbeo.	Nḍowedzo ya 1-4. U talusa tshithu u bva kha vhuimo ho fhambanaho. U ita nḍowedzo ya zwivhumbeo na vhuimo.	<b>Nyito ya 1</b>	Tshitendeledzi/tshikwea/ṭhofunderaru zwi nga vha hafhu ... (kha vha sike tshifanyiso).
<b>Duvha la 2</b>	Tshisagana tsha u phuphuledza - u phuphuledza zwivhumbeo zwo fhambanaho na u zwi talusa.		<b>Nyito ya 2</b>	U ita zwivhumbeo vha tshi shumisa zwithu zwa u tumula zwikontsi na suko la u tambisa.
<b>Duvha la 3</b>	U ṭoda zwivhumbeo ngomu kilasini vha tshi shumisa maipfi a vhuimo.		<b>Nyito ya 3</b>	U fhaṭa nga zwibuḷoko - kha vha shumise zwibuḷoko/zwibuḷoko zwa Yunifikisi.
<b>Duvha la 4</b>	U ṭodisisa tshivhumbeo. Zwinzhi nga tshithihi, zwiṭuku nga tshithihi.		<b>Nyito ya 4</b>	Dziphazili (gumoṭuku la zwipiḍa zwa 12).
<b>Duvha la 5</b>	Sia na vhuimo. Tshikundisi tshi fanelaho u kundwa.			
Vhege ya 5				
<b>SIA LA MAGUDISWA: NOMBORO, TSWAYO NA VHUSHAKA</b>				
<b>THERO: U topola zwiga zwa nomboro na ipfinomboro; u talusa, u tevhekanya na u vhambedza nomboro</b>				
<b>KHA VHA DIVHADZE NDIVHO NTSWA:</b> U divhadza nomboro 5				
<b>NDOWEDZO:</b> U vhalela ha mutevhetsindo 1-15, u vhalela zwithu 1-7, u vhalela u humela murahu u bva kha 5 (zwidade), u khwaṭhisedza divhaipfi ya nomboro 1-4, u tevhekanya nomboro 1-4, zwinzhi/zwiṭuku				
Nyito dza kilasi yoṭhe		Nyito yo rangwaho phanda nga mugudisi	Nyito dza tshithini tsha u shumela	
<b>Duvha la 1</b>	U divhadza 5 (ṭhoho 5 kha nḍu ya vhuṭanu).	U vhambedza zwiga zwa nomboro, maipfinomboro na magarata a tshithoma (4 na 5). U vhalela 1-7. U anganyela na u vhalela. Vhulungu ha u vhalela. Phaṭhekanyo dzo fhambanaho dza nomboro i fanaho.	<b>Nyito ya 1</b>	Methe wa suko la u tambisa 5.
<b>Duvha la 2</b>	U khwaṭhisedza 4 na 5 (zwiga zwa nomboro na maipfinomboro).		<b>Nyito ya 2</b>	Nomboro dza tshipembenene (u vhumba tshivhalo tsho teaho tsha bola dza mabambiri).
<b>Duvha la 3</b>	U vhalela u ya phanda na u humela murahu. Mutalombalo.		<b>Nyito ya 3</b>	U fanyisa nomboro - dziphekhi.
<b>Duvha la 4</b>	U khwaṭhisedza 4 na 5.		<b>Nyito ya 4</b>	Phazili dza nomboro u swika kha 5 (vha tshi shumisa maipfinomboro).
<b>Duvha la 5</b>	U khwaṭhisedza nomboro 1-5 (magarata a tshithoma, zwiga zwa nomboro, maipfinomboro ane vha ḍo vhona).			

Week 6				
<b>CONTENT AREA: PATTERNS, FUNCTIONS AND ALGEBRA</b>				
<b>TOPIC: Copies and extends simple repeating patterns; creates own patterns; describes the repeat in patterns</b>				
<b>INTRODUCE NEW KNOWLEDGE:</b> Copy and extend simple patterns, create and explain own pattern, oral counting 1–20, count backwards from 7				
<b>PRACTISE:</b> Sequencing numbers 1–5, counting objects 1–7, making groups the same				
Whole class activities		Teacher-guided activity	Workstation activities	
Day 1	Physical patterns.	Focus on number concept 1–5. Shake and break. Make equal groups. Patterns with a partner. Unifix blocks.	Activity 1	Extension of a pattern – drawing and colouring in. Snake patterns – using shapes. Pattern cards – using Unifix blocks. Threading patterns with beads.
Day 2	Identifying patterns in everyday objects.		Activity 2	
Day 3	Problem solving using patterns.		Activity 3	
Day 4	Making patterns using everyday objects.		Activity 4	
Day 5	Sound patterns.			
Week 7				
<b>CONTENT AREA: DATA HANDLING</b>				
<b>TOPIC: Collects and sort objects; represents sorted collections of objects; discusses and reports on sorted collections of objects</b>				
<b>INTRODUCE NEW KNOWLEDGE:</b> Draw a picture of collected objects, answer questions on own picture				
<b>PRACTISE:</b> Oral counting 1–20 and backwards from 7, counting objects 1–7, more than/less than/equal to, number concept 1–5, sorting and classifying				
Whole class activities		Teacher-guided activity	Workstation activities	
Day 1	Collects and sort objects (round or square).	Estimating. Counting. Sorting collections of animals. Pictograph: more/less. Questioning.	Activity 1	Cutting and sorting transport pictures. Sorting waste objects. Shape graph (use cut out shapes). Sorting by colour.
Day 2	Sorting game. Poster 8.		Activity 2	
Day 3	Pictograph: How do you get to school?		Activity 3	
Day 4	Discuss Day 3 results (asking questions).		Activity 4	
Day 5	Collect and sort classroom objects.			

Vhege ya 6				
<b>SIA LA MAGUDISWA:</b> PHETHENI, FANKISHENI NA AĀIDZHEBURA				
<b>THERO:</b> U kopa na u engedza phetheni dzi didovhololaho dzo leluwaho; u sika phetheni vhone vhaṅe; u ṭalusa ndovhololo kha phetheni <b>KHA VHA DIVHADZE NDI VHO NTSWA:</b> U kopa na u engedza phetheni dzo leluwaho, u sika na u ṭalutshedza phetheni vhone vhaṅe, u vhalela ha mutevhetsindo 1–20, u vhalela u humela murahu u bva kha 7 <b>NDOWEDZO:</b> U tevhékanya nomboro 1–5, u vhalela zwithu 1–7, u ita uri zwiḡwada zwi fane				
Nyito dza kilasi yoṭhe		Nyito yo rangwaho phanda nga mugudisi	Nyito dza tshítshini tsha u shumela	
<b>Duvha la 1</b>	Phetheni dza muvhili.	U sedzesa kha divhaipfi ya nomboro 1–5. U dzinginya na u kwasha. U ita zwiḡwada zwi eḡanaho. Phetheni na mufarakani. Zwiḡḡoko zwa Yunifikisi.	<b>Nyito ya 1</b>	U engedza phetheni – u ola na u dzhenisa muvhala. Phetheni dza ṅowa – vha tshi shumisa zwi vhumbeo. Magaraṭa a phetheni – vha tshi shumisa zwiḡḡoko zwa Yunifikisi. U runga phetheni nga vhumbeo.
<b>Duvha la 2</b>	U topola phetheni kha zwithu zwa duvha liṅwe na liṅwe.		<b>Nyito ya 2</b>	
<b>Duvha la 3</b>	U tandulula thaidzo vha tshi shumisa phetheni.		<b>Nyito ya 3</b>	
<b>Duvha la 4</b>	U ita phetheni vha tshi shumisa zwithu zwa duvha liṅwe na liṅwe.		<b>Nyito ya 4</b>	
<b>Duvha la 5</b>	Phetheni dza mubvumo.			
Vhege ya 7				
<b>SIA LA MAGUDISWA:</b> U SHUMA NA DATA				
<b>THERO:</b> U kuvhanganya na u vhekanya zwithu; u imela kuvhanganyo dza zwithu dzo vhekanywaho; u haseledza na u vhiga nga kuvhanganyo dza zwithu dzo vhekanywaho <b>KHA VHA DIVHADZE NDI VHO NTSWA:</b> U ola tshifanyiso tsha zwithu zwo kuvhanganywaho, u fhindula mbudziso nga tshifanyiso tshavho <b>NDOWEDZO:</b> U vhalela ha mutevhetsindo 1–20 na u humela murahu u bva kha 7, u vhalela zwithu 1–7, zwinzhi kha/zwiḡḡoko kha/eḡana na, divhaipfi ya nomboro 1–5, u vhekanya na u khethekanya				
Nyito dza kilasi yoṭhe		Nyito yo rangwaho phanda nga mugudisi	Nyito dza tshítshini tsha u shumela	
<b>Duvha la 1</b>	U kuvhanganya na u vhekanya zwithu (tshipulumbu kana tshikwea).	Nyanganyelo. U vhalela. U vhekanya kuvhanganyo dza phukha. Girafu ya zwifanyiso: zwinzhi/zwiḡḡoko. U vhudzisa.	<b>Nyito ya 1</b>	U gera na u vhekanya zwifanyiso zwa zwiendedzi. U vhekanya thukhwi. Girafu ya tshivhumbeo (kha vha shumise zwi vhumbeo zwo tou gerwaho). U vhekanya nga muvhala.
<b>Duvha la 2</b>	Mutambo wa u vhekanya. Phositaru ya 8.		<b>Nyito ya 2</b>	
<b>Duvha la 3</b>	Girafu ya tshifanyiso: Ni isa hani tshikoloni?		<b>Nyito ya 3</b>	
<b>Duvha la 4</b>	Kha vha haseledze mvelelo dza Duvha la 3 (u vhudzisa mbudziso).		<b>Nyito ya 4</b>	
<b>Duvha la 5</b>	U kuvhanganya na u vhekanya zwithu kilasini.			

# Workshop 5 Evaluation Form

1. Did the workshop meet your expectations?

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

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

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

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

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## Fomo ya u Linga ya Wekishopo ya 5

1. Wekishopo yo swikelela ndavhelelo dzavho?

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

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

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4. Vha ḡo shumisa hani zwe vha guda ngomu kiḡasirumuni yavho ya Gireidi ya T?

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

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