Tshivenḓa/English

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

Wekishopo ya 6 ● Workshop 6
Nyendedzi ya Mutshimbidzi ● Facilitator's Guide

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

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

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

Schools Development Unit (SDU) ngei **University of Cape Town** (UCT) ndi mufarakani wa thekhinikhala wa mbalo kha Mbalo dza Gireidi ya Ṱ na Thandela ya u Khwinisa Dzinyambo. SDU ndi yuniti ngomu ha School of Education tsha UCT ine ya sedzesa kha mveledziso ya phurofeshinala ya vhagudisi kha Mbalo, Saintsi, Ḽitheresi/Dzinyambo na Zwikili zwa Vhutshilo u bva kha Gireidi ya Ṱ u ya kha Gireidi ya 12. SDU i ṋetshedza ndalukanyo dza mugudisi na khoso pfufhi dzo themendelwaho dza UCT, mushumo wo ḓisendekaho nga tshikolo, mveledziso ya matheriala na ṱhoḓisiso zwa u tikedza u gudisa na u guda nga nyambo dzoṱhe dza Afrika Tshipembe.

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

Contents

Zwi re ngomu

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)

Manweledzo

Ndivho

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

Ndivho ya wekishopo iyi ndi u thusa vhagudisi u thoma Mbekanyamushumo ya Mbalo ngomu kiḽasirumuni dzavho, zwihulusa Masia a Magudiswa o kwamiwaho kha Kotara ya 2 Vhege ya 8–10. Vhashelamulenzhe vha ḓo amba nga u linga hu iteaho tshifhinga tshoṱhe ha mvelaphanḓa ya vhagudi nahone vha ḓo ṅwala mbilaelo dza mveledziso dzi tshimbilelanaho na vhagudi vhane vha nga ṱoḓa u phalalwa na thikhedzo zwo khetheaho. Vhashelamulenzhe vha ḓo dovha hafhu vha amba nga maano a u funza ane a khwaṱhisa zwikili zwa u tandulula thaidzo zwa vhagudi.

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

Mvelelo dza u guda

♦ U humbula nga u thomiwa ha Kotara ya 2 Vhege ya 8–10
♦ U tandula maano a u tikedza u funza mbalo kha Gireidi ya Ṱ
♦ U amba nga milayo ya Mbekanyamushumo ya Mbalo ngomu ha pulane ya vhege nga vhege
♦ U shuma na magudiswa a Mbakanyamushumo ya Mbalo a Kotara ya 2 Vhege ya 8–10 (Tshikhala na Tshivhumbeo (Dzhomeṱiri); Muelo; Nomboro, Tswayo na Vhushaka)
♦ U shumisa nḓivho i si ya fomaḽa, u linga hu yaho phanḓa u itela u guda na u funza

Magudiswa a wekishopo

♦ Mvulatswinga na mihumbulo   (Awara 1)
♦ Dzulo ḽa 1: Tshikhala na Tshivhumbeo (Dzhomeṱiri)   (Awara 1)
TIE
♦ Dzulo ḽa 2: Muelo   (Awara 1)
♦ Dzulo ḽa 3: Nomboro, Tswayo na Vhushaka   (Awara 1)
TSHISWIṰULO
♦ Dzulo ḽa 4: Nomboro, Tswayo na Vhushaka   (Minetse ya 45)
♦ Dzulo ḽa 5: U linga kha Kotara ya 2   (Awara 1)
♦ Nyito dza u vala   (Minetse ya 15)

Preparation

- PPT welcome and outcomes
- Read:
  Concept Guide, pages 114–137
  Activity Guide: Term 2, pages 18–21 and pages 138–189
  Appendix A: Term 2 Weekly Content Summary (Weeks 8–10)
- Remind participants to bring their *Concept Guide*, *Activity Guide: Term 2*, an example of their assessment of a learner and their evaluation notes from the *Take back to school* task from Workshop 5.
- Place a *Resource Kit* on each group's table.
- Cut out a set of shapes from Appendix B for each group. Place the shapes in a separate envelope for each group.

Materials

- Flipchart paper, kokis
- A *Resource Kit* for each group
- A *Poster Book* for each group

Ndugiselo

- PPT u ṱanganedza na mvelelo
- Kha vha vhale:

  Nyendedzi ya Ḓivhaipfi, masiaṱari a 114–137

  Nyendedzi ya Nyito: Kotara ya 2, masiaṱari a 18–21 na masiaṱari a 138–189

  Ṱhumetshedzo ya A: Manweledzo a Magudiswa a Vhege nga Vhege a Kotara ya 2 (Vhege ya 8–10)
- Kha vha humbudze vhashelamulenzhe u ḓa na *Nyendedzi ya Ḓivhaipfi, Nyendedzi ya Nyito dzavho: Kotara ya 2*, tsumbo ya u linga havho mugudi na notsi dzavho dza u ṱola u bva kha *Mushumo wa u ṱuwa nawo tshikoloni* u bva kha Wekishopo ya 5.
- Kha vha vhee *Khithi ya Zwishumiswa* kha ṱafula ya tshigwada tshiṅwe na tshiṅwe.
- Kha vha gere sete ya zwivhumbeo u bva kha Ṱhumetshedzo ya B u ya tshigwadani tshiṅwe na tshiṅwe. Kha vha vhee zwivhumbeo kha fulobo ya thungo u itela tshigwada tshiṅwe na tshiṅwe.

Matheriala

- Bammbiri ḽa fiḽipitshati, dzikhokhi
- Khithi ya Zwishumiswa ya tshigwada tshiṅwe na tshiṅwe
- Bugu ya Dziphositara ya tshigwada tshiṅwe na tshiṅwe

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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Mvulatswinga na mihumbulo

Notsi dza mutshimbidzi
♦ PPT: Kha vha vule dzulo vha vhale adzhenda na mvelelo dza u guda dza wekishopo. ♦ Kha vha humbele vhashelamulenzhe u amba nga u thoma havho Kotara ya 2 Vhege ya 4–7 dza Mbekanyamushumo ya Mbalo na zwe vha vhona na u linga vhagudi. ♦ Vhashelamulenzhe vha haseledza mbudziso dzi re kha **Nyito ya 1** nga zwigwada zwiṱuku. Kha vha fhedze tshifhinga na tshigwada tshiṅwe na tshiṅwe nga tshifhinga tsha khaseledzo, vha tshi dzhoina hune zwa tea.

Mushumo wa u ṱuwa nawo tshikoloni ngoyu u bva kha Wekishipo ya 5.

Mushumo wa u ṱuwa nawo tshikoloni (Wekishopo ya 5)

1. Kha vha bvele phanḓa na u shumisa Rekhodo ya u Linga hu yaho Phanḓa kha *Nyendedzi ya Nyito: Kotara ya 2* u itela u linga vhagudi vhavho. Kha vha shumise notsi dzavho dza u sedza hu bvelaho phanḓa u fhaṱa vhuṱanzi ha zwine vhagudi vha pfesesa na zwine vha nga ita.

2. Kha vha topole mbilaelo dziṅwe na dziṅwe dzine vha vha nadzo nga mugudi nga eṱhe dza u guda u fara ḓivhaipfi ya mbalo.

3. Kha vha ḓise khophi dza ruburiki dze vha dzi shumisa u itela u linga mbalo kha wekishopo i tevhelaho.

4. Kha vha ḓe na rekhodo ya u linga yo ḓadzwaho ya mugudi muthihi kha wekishopo i tevhelaho.

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 ḓivhaipfi ya vhege iṅwe na iṅwe.

6. Kha vha ite notsi nga zwe zwa shuma zwavhuḓi, zwe zwa zwi shume zwavhuḓi na zwine vha nga ita nga iṅwe nḓila yo fhambanaho u khwinisa u funza na u guda.

Nyito ya 1

1. Zwigwadani zwavho, kha vha haseledze mvelaphanḓa yavho kha u thoma Kotara ya 2 Vhege ya 4–7.
    - ♦ Ndi zwifhio zwe zwa shuma zwavhuḓi (zwine vho konesa)?
    - ♦ Ndi zwifhio zwe zwa si shume zwavhuḓi (dzikhaedu)?
    - ♦ Vha nga ita mini u itela u khwinisa u funza na u guda ngomu kiḽasini yavho?

Kha vha rekhode mbuno dza ndeme dza khaseledzo yavho kha bammbiri ḽa fiḽipitshati u itela u kovhana na zwiṅwe zwigwada nga murahu.

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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.

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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.

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Facilitator's notes
♦ Ask each group to share the main points from their discussion. Remind participants to only add points that other groups have not already mentioned.
♦ This discussion is intended to reflect on the process of capturing learners' progress over a period of weeks. Participants were asked to observe learners as they perform tasks in whole class and small group activities and to capture this information. The discussion is intended to help teachers recognise how to use the Record of Continuous Assessments to look for patterns of competence in the learners and to share the assessment tools and processes they use in their schools.

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. Kha vha haseledze uri vho kona hani u:
   ♦ rekhoda notsi dza vhagudi nga muthihimuthihi nga murahu ha nyito yo rangwaho phaṇḓa nga mugudisi iṅwe na iṅwe kha Vhege ya 4–7.
   ♦ fhedza Kotara ya 2: Rekhodo dza u Linga hu yaho Phaṇḓa dzi re kha masiaṱari a 190–193 a *Nyendedzi ya Nyito: Kotara ya 2* u itela mugudi muṅwe na muṅwe.

Kha vha rekhode mbuno dza ndeme dza khaseledzo yavho kha bammbiri ḽa fiḽipitshati.

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3. Kha vha haseledze masia a mugudi muthihi a u bvelela na/kana vhuleme na uri vho rekhodisa hani izwi. Kha vha rekhode mbuno dza ndeme dza khaseledzo yavho kha bammbiri ḽa fiḽipitshati.

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Notsi dza mutshimbidzi

♦ Kha vha humbele tshigwada tshiṅwe na tshiṅwe u kovhana mbuno dza ndeme u bva kha khaseledzo yatsho. Kha vha humbudze vhashelamulenzhe uri vha engedze fhedzi mbuno dze zwiṅwe zwigwada zwa sa dzi bule.

♦ Khaseledzo iyi i itelwa u bvisela khagala maitele a u ṅwala mvelaphaṇḓa ya vhagudi kha tshifhinga tsha vhege dzo vhalaho. Vhashelamulenzhe vho humbelwa uri vha sedze vhagudi zwenezwi vha tshi khou ita mushumo kha nyito dza kiḽasi yoṱhe na dza tshigwada tshiṱuku na u ṅwala mafhungo aya. Khaseledzo i khou itelwa u thusa vhagudisi u topola uri vha nga shumisa hani Rekhodo ya u Linga hu yaho Phaṇḓa u itela u lavhelesa pheṱheni dza vhukoni kha vhagudi na u kovhana zwishumiswa zwa u linga na maitele ane vha a shumisa zwikoloni zwavho.

Kha *Mushumo wa u ṱuwa nawo tshikoloni* kha Wekishopo ya 5 vho humbelwa u ḓa na khophi dza dziruburiki dza u linga vhagudi dzine vha dzi shumisa sa tshipiḓa tsha Mbekanyamushumo ya Mbalo kha ino wekishopo. Kha Nyito ya 2, tshigwada tshavho tshi ḓo haseledze dziruburiki idzi na uri mafhungo a u linga a ṅwalwa hani na u kovhiwa. Kha Dzulo ḽa 5, ri ḓo haseledza dziruburiki nga vhuḓalo.

👥 **Nyito ya 2**

1. Zwigwadani zwavho, kha vha kovhane tsumbo dza dziruburiki dza mbalo dze vha dzi shumisa sa tshipiḓa tsha maitele a u linga avho.
2. Kha vha haseledze uri vha ṅwala hani mvelaphaṇḓa ya vhagudi kha sisteme ya SA-SAMS na uri mafhungo aya a kovhiwa hani na vhabebi.

Kha vha rekhode mbuno dza ndeme dza khaseledzo yavho kha bammbiri ḽa fiḽipitshati u itela u kovhana na zwigwada nga vhuya.

📹 **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.

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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.

Facilitator's notes
♦ Discuss the need for a differentiated approach to teaching and why this is beneficial for all the learners in the class. Link the discussion to the **level principle**.
♦ Throughout this workshop make links to the **level principle** and differentiation strategies for dealing with learners who are not achieving success in the structured weekly plans, as well as those learners who exceed expectations.

📹 **Vidiyo ya 1**

Kha vha ṱalele vidiyo ya mugudisi o sedza tshigwada tsha vhagudi vha tshi khou ita nyito ya mbalo. Kha vha mu thetshelese a tshi khou amba nga uri u sedzisa hani na u rekhoda mvelaphanḓa ya vhagudi vhawe na uri u shuma hani na ḽeveḽe dzavho dzo fhambanaho dza vhukoni.

Kha vha haseledze uri vha shuma hani na vhagudi vhane a vha khou swikelela u bvelela kha pulane dza vhege iṅwe na iṅwe dzo dzudzanywaho, khathihi na vhaḽa vhagudi vhane vha fhira zwe zwa lavhelelwa.

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Mulayo wa maimo: A si vhagudi vhoṱhe vhane vha bvela phanḓa nga luvhilo lu fanaho. Vhaṅwe vhagudi vha ṱoḓa tshifhinga tshinzhi u khwaṱhisedza tshikili kana ḓivhaipfi ngeno vhaṅwe vha tshi fara mihumbulo nga u ṱavhanya. Khaedu ya vhagudisi ndi u ṱanganedza vhagudi vha ḽeveḽe dzo fhambanaho na u shandukisa pulane dza vhege nga vhege u itela u ṋea thikhedzo kana nyito dza u engedza hune zwa konadzea.

Notsi dza mutshimbidzi

♦ Kha vha haseledze ṱhoḓea ya maele o fhambanaho a u funza na uri ndi ngani izwi zwi tshi vhuedza kha vhagudi vhoṱhe vha re ngomu kiḽasini. Kha vha ṱumanye khaseledzo iyi na **mulayo wa maimo**.

♦ Nga tshifhinga tsha iyi wekishopo kha vha ite vhuṱumanyi na **mulayo wa maimo** na maano o fhambanaho a u shuma na vhagudi vhane a vha khou swikelela u bvelela kha pulane dza vhege nga vhege dzo dzudzanywaho, khathihi na vhaḽa vhagudi vhane vha fhira zwe zwa lavhelelwa.

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.

Facilitator's notes
♦   The aim of **Activity 3** is to highlight the content of CAPS and the extended content provided in the Maths Programme.
♦   Refer participants to pages 126–131 of the *Concept Guide*: follow directions (3.1) and crossing the midline (3.4).
♦   Draw participants' attention to the Week 8 content in the New knowledge box on page 138 of *Activity Guide: Term 2*.
♦   Remind participants of Space and Shape (Geometry) content covered in previous weeks.

Dzulo ḽa 1: Tshikhala na Tshivhumbeo (Dzhomeṱiri)

Wekishopo iyi yo sedzesa kha u funza magudiswa a Kotara ya 2 Vhege ya 8–10. Kotara ya 2 Vhege 8 yo sedzesa kha Tshikhala na Tshivhumbeo (Dzhomeṱiri).

Manweledzo a magudiswa a Kotara ya 1–4: Tshikhala na Tshivhumbeo (Dzhomeṱiri)

Kha vha sedze kha manweledzo a magudiswa a Tshikhala na Tshivhumbeo (Dzhomeṱiri) kha masiaṱari a 126–131 a *Nyendedzi ya Ḓivhaipfi* vha fhedzise Nyito ya 3.

Notsi dza mutshimbidzi
♦   Ndivho ya **Nyito ya 3** ndi u bvisela khagala magudiswa a TSHIPHOKHALI na magudiswa o engedzwaho o ṋetshedzwaho kha Mbekanyamushumo ya Mbalo.
♦   Kha vha rumele vhashelamulenzhe kha masiaṱari a 126–131 a *Nyendedzi ya Ḓivhaipfi*: tevhelani masia (3.1) na u pfuka mutalo wa vhukati (3.4).
♦   Kha vha humbudze vhashelamulenzhe nga magudiswa a Vhege ya 8 kha bogisi ḽa Nḓivho ntswa kha siaṱari ḽa 139 ḽa *Nyendedzi ya Nyito: Kotara ya 2*.
♦   Kha vha humbudze vhashelamulenzhe nga magudiswa a Tshikhala na Tshivhumbeo (Dzhomeṱiri) o kwamiwaho kha vhege dzo fhiraho.

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.

Facilitator's notes
♦ Hand out one set of shapes from Appendix B to each group.
♦ Ask participants to sort the shapes. Don't prompt them. Once they have sorted them, ask: *How did you sort the shapes?* Ask participants to explain why they sorted the shapes in this way.
♦ Now ask participants to sort the shapes in another way. Ask participants to explain why they sorted the shapes in this way.
♦ Make sure that the following sorting criteria are mentioned: - shape - size - number of sides - number of corners - straight or curved lines.
♦ Encourage participants to use the correct maths vocabulary to describe the properties of shapes, e.g. *sides*, *corners*, *lines*.

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.

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.

Vhunzani ha zwivhumbeo

Vhagudi vha ṱoḓa zwikhala zwinzhi zwa u vhambedza na u vhekanya zwivhumbeo u ya nga vhunzani hazwo na u ṱalusa zwi fanaho na zwo fhambanaho kha zwivhumbeo.

Notsi dza mutshimbidzi
♦ Kha vha phakhele tshigwada tshiṅwe na tshiṅwe sete nthihi ya zwivhumbeo u bva kha Ṱhumetshedzo ya B.
♦ Kha vha humbele vhashelamulenzhe u vhekanya zwivhumbeo. Vha songo vha ṱuṱuwedza. Musi vho no zwi vhekanya, kha vha vhudzise: *Vho vhekanyisa hani zwivhumbeo?* Kha vha humbele vhashelamulenzhe u ṱalutshedza uri ndi ngani vho vhekanya zwivhumbeo nga iyo nḓila.
♦ Zwino kha vha humbele vhashelamulenzhe u vhekanya zwivhumbeo nga iṅwe nḓila. Kha vha humbele vhashelamulenzhe u ṱalutshedza uri ndi ngani vho zwi vhekanya nga nḓila iyo.
♦ Kha vha vhe na vhuṱanzi ha uri nḓila dza u vhekanya dzi tevhelaho dzo bulwa: - tshivhumbeo   - saizi   - tshivhalo tsha masia   - tshivhalo tsha dzikhuḓa   - mitalo ya tswititi kana yo khevaho.
♦ Kha vha ṱuṱuwedze vhashelamulenzhe u shumisa ḓivhaipfi yo teaho ya mbalo u ṱalusa vhunzani ha zwivhumbeo, sa tsumbo: *masia*, *khuḓa*, *mitalo*.

 Nyito ya 4

Mutshimbidzi u ḓo ṋea tshigwada tshavho sete ya zwivumbeo.

1. Kha vha vhekanye zwivhumbeo.
2. Kha vha haseledze uri ndi ngani vho zwi vhekanya nga nḓila iyi.
3. Kha vha vhekanye zwivhumbeo nga iṅwe nḓila.
4. Kha vha haseledze uri ndi ngani vho zwi vhekanya nga nḓila iyi.

Manweledzo a Magudiswa a Kotara ya 2: Vhege ya 8

Kha vha sedze kha Ṱhumetshedzo ya A: Manweledzo a Magudiswa a Vhege nga Vhege a Kotara ya 2 (Vhege ya 8–10). Kha vha vhale manweledzo a magudiswa a Vhege ya 8: Tshikhala na Tshivhumbeo (Dzhomeṱiri) kha siaṱari ḽa 21 ḽa *Nyendedzi ya Nyito: Kotara ya 2*.

Sia ḽa Magudiswa ḽa Tshikhala na Tshivhumbeo (Dzhomeṱiri) na ḽone ḽo vha ḽo sedzeswa kha Kotara ya 2 Vhege ya 3 na 4. Kha wekishopo dzo fhiraho, vho haseledza ḓivhaipfi ya Tshikhala na Tshivhumbeo ine ya fanela u kwamiwa.

Manweledzo a Magudiswa a Vhege nga Vhege a Vhege ya 8 a ṋetshedza manweledzo a u pulanela vhege: nyito dza kiḽasi yoṱhe, nyito dzo rangwaho phanḓa nga mugudisi na nyito dza zwiṱitshini zwa u shumela dzine dza itwa kha zwigwada zwiṱuku zwo ḓiimisaho nga zwoṱhe.

Facilitator's notes

♦ The aim of **Activity 5** is for teachers to recognise the link between:
    - the CAPS content in the Term 1–4 content overview on pages 126–131 of the *Concept Guide*
    - the content overview on page 20 of *Activity Guide: Term 2*
    - Appendix A: Term 2 Weekly Content Summary (Weeks 8–10)
    - the daily activities in Week 8 of *Activity Guide: Term 2* (pages 138–153).
 ♦ In the whole group feedback session make sure that participants are familiar with the structure of and planning for the teaching of Week 8. Help them to identify the links between the suggested activities in *Activity Guide: Term 2* and the content overview. Link this discussion back to how the content of the week fits with CAPS.

 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.

👪 Nyito ya 5

1. Kha vha dzhie minetse i si gathi u ḓi ḓivhadza nga magudiswa a Vhege ya 8 a re kha Ṱhumetshedzo ya A: Manweledzo a Magudiswa a Vhege nga Vhege a Kotara ya 2 (Vhege ya 8–10).

2. Kha vha fanyise izwi na magudiswa a re kha masiaṱari a 138–153 a *Nyendedzi ya Nyito: Kotara ya 2*. Kha vha topole uri nyito dza kiḽasi yoṱhe, dzo rangwaho phanḓa nga mugudisi na dza zwiṱitshini zwa u shumela dzi ṱumana hani na magudiswa a Vhege ya 8 a re kha Ṱhumetshedzo ya 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*.

Facilitator's notes
♦ The aim of **Activity 6** is to highlight the content of CAPS.
♦ Remind teachers that assessment in Grade R should be based on CAPS, and that the additional Maths Programme content is for enriching the teaching and learning experience.

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.

Dzulo ḽa 2: Muelo

Kotara ya 2 Vhege ya 9 yo sedzesa kha Muelo.

Manweledzo a magudiswa a Kotara ya 1–4: Muelo

Kha vha sedze manweledzo a magudiswa a Muelo kha masiaṱari a 132–135 a *Nyendedzi ya Ḓivhaipfi*.

Notsi dza mutshimbidzi

♦ Ndivho ya **Nyito ya 6** ndi u bvisela khagala magudiswa a TSHIPHOKHALI.

♦ Kha vha humbudze vhagudisi uri u linga kha Gireidi ya Ṱhu fanela u ḓisendeka kha TSHIPHOKHALI, na uri magudiswa a Mbekanyamushumo ya Mbalo a u engedza ndi a u pfumisa tshenzhemo ya u funza na u guda.

Nyito ya 6

1. Ndi ḓivhaipfi ifhio ya Muelo yo kwamiwaho kha Kotara ya 2?

    _____

    _____

    _____

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

    _____

    _____

    _____

U vhambedza zwithu ho livhaho: vhulapfu

Kha Kotara ya 1 ya Mbekanyamushumo ya Mbalo zwe zwa sedzeswa kha Sia ḽa Magudiswa ḽa Muelo ho vha hu tshifhinga (masiari, vhusiku, maḓuvha a vhege, thevhekano ya zwiwo, ngauralongauralo.) na tshati ya vhulapfu. Kha Kotara ya 2 Vhege ya 9, ho sedzeswa kha u shumisa zwa u ela zwi si zwa tshitandadi u ela na u vhambedza vhulapfu.

Nyito ya 7

1. **Mbambedzo yo livhaho**
    Kha vha nange mufarakani vha ime tsini nae. Miraḓo miṅwe yoṱhe ya tshigwada tshavho vha fanela u vhambedza vhulapfu havho.

    ♦ Ndi nnyi mulapfusa? _____

    ♦ Ndi nnyi mupfufhisa? _____

    ♦ Kha vha wane muthu wa vhuraru a re mulapfusa kha avha vhavhili.

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.

   _____

   _____

   _____

Facilitator's notes

♦ Point out that the non-standard units used to measure the *Participant's Workbook* are not the same size. When participants compare their measurements (how many units, e.g. the key), they will recognise that the choice of the unit determines how many of a unit there are in the total number of units – so, the different objects used for measuring will result in a different number of units in the answer (total number of units), e.g. the *Participant's Workbook* measures 17 keys versus 4 cellphones.

♦ Make participants aware that the size of a non-standard unit can vary between people, e.g. one person may have a smaller cellphone than another. This will also result in a different total number of units.

♦ Observe participants as they measure and make sure that the non-standard unit is being used accurately (end-to-end).

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*.

2. **U shumisa zwa u ela zwi si zwa tshitandadi**
   Kha vha nange zwithu zwiraru (sa tsumbo: khii, luṱingothendeleki, tshipatshi).
   ♦ Kha vha shumise tshithihi tsha izwi zwithu u ela iyi *Bugu ya Mushumo ya Vhashelamulenzhe*.
   ♦ Kha vha vhige mawanwa avho tshigwadani.

   _____

   _____

   _____

Notsi dza mutshimbidzi
♦ Kha vha sumbedzise uri zwa u ela zwi si zwa tshitandadi zwo shumiswaho u ela *Bugu ya Mushumo ya Vhashelamulenzhe* a si zwa saizi i fanaho. Musi vhashelamulenzhe vha tshi vhambedza mielo yavho (ndi dziyuniti nngana, sa tsumbo, khii), vha ḓo topola uri yuniti ye vha nanga i ta uri hu na yuniti nngana dzi re hone kha ṱhanganyelo ya tshivhalo tsha dziyuniti – zwenezwo, zwithu zwo fhambanaho zwo shumiswaho u ela zwi ḓo bveledza tshivhalo tsha dziyuniti dzo fhambanaho kha phindulo (ṱhanganyelo ya tshivhalo tsha dziyuniti), sa tsumbo, *Bugu ya Mushumo ya Vhashelamulenzhe* i ela khii dza 17 dzi tshi vhambedzwa na ṱhingothendeleki 4.
♦ Kha vha ite uri vhashelamulenzhe vha ḓivhe uri saizi ya tsha u ela tshi si tsha tshitandadi i nga fhambana u ya nga vhathu, sa tsumbo, muthu muthihi a nga vha na ṱhingothendeleki ṱhukhu u fhirwa nga ya munwe. Izwi zwi ḓo ita uri hu vhe na ṱhanganyelo ya tshivhalo tsha dziyuniti dzo fhambanaho.
♦ Kha vha sedze vhashelamulenzhe zwenezwi vha tshi khou ela na u vhona uri tshithu tsha u ela tshi si tsha tshitandadi tshi khou shumiswa nga nḓila yo teaho (u bva mathomoni u ya magumoni).

Manweledzo a Magudiswa a Kotara ya 2: Vhege ya 9

Kha vha sedze kha Ṱhumetshedzo ya A: Manweledzo a Magudiswa a Vhege nga Vhege a Kotara ya 2 (Vhege ya 8–10). Kha vha vhale manweledzo a magudiswa a Vhege ya 9: Muelo u re kha siaṱari ḽa 21 ḽa *Nyendedzi ya Nyito: Kotara ya 2*.

Kha vha vhale nyito dza kiḽasi yoṱhe dza Vhege ya 9 kha masiaṱari a 154–165 a *Nyendedzi ya Nyito: Kotara ya 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?

_____

_____

_____

Focus on language, on practical activities. Provide more repetition, more discussion, more input from the teacher. Pair learner with a peer.

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

_____

_____

_____

Prepare appropriate free choice activities. Give them a 'big' task to do e.g. use your shoe to measure one side of the classroom.

Nyito ya 9

Zwigwadani zwavho, kha vha haseledze uri vhulapfu vhu funzwa hani nga tshifhinga tsha nyito dza kiḽasi yoṱhe kha Vhege ya 9.

1. Vha nga ita mini arali mugudi a sa athu kona u vhambedza na u tevhekanya zwithu u ya nga vhulapfu – ndapfu/ndapfusa na pfufhi/pfufhisa mafheloni a Vhege ya 9?

   _____

   _____

   _____

   Kha vha sedzese kha luambo, kha nyito dza phurakithikhala. Kha vha ṋetshedze ndovhololo nnzhi, khaseledzo nnzhi, zwinzhi zwine zwi nga ambiwa u bva kha mugudisi. Vha vha vhee vhagudi na thanga ya murole.

2. Vha nga ita mini arali vhaṅwe vhagudi vha fhedza nyito ya tshiṱiṱitshini tsha u shumela zwavhuḓi nga u ṱavhanya u fhira zwe zwa vha zwo pulanwa?

   _____

   _____

   _____

   Kha vha dzudzanye nyito dza u ḓinangela dzo teaho. Kha vha vha ṋee mushumo 'muhulwane' wa u ita, sa tsumbo: shumisani tshienda tshaṋu u ela sia ḽithihi ḽa kiḽasirumu.

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 181 of *Activity Guide: Term 2*), Poster 1 is used to encourage learners to solve problems that involve numbers 1–5.

Dzulo ḽa 3: Nomboro, Tswayo na Vhushaka Awara 1

Kotara ya 2 Vhege ya 10 yo sedzesa kha Nomboro, Tswayo na Vhushaka.

Manweledzo a magudiswa a Kotara ya 1–4: Nomboro, Tswayo na Vhushaka

Sia ḽa Magudiswa ḽa Nomboro, Tswayo na Vhushaka ḽo vha ḽo sedzeswa hafhu kha Vhege ya 1, 2 na 5 dza Kotara ya 2, nahone vho haseledza ḓivhaipfi ya nomboro ine ya fanela u kwamiwa kha wekishopo dzo fhiraho. Kha vha sedze manweledzo a magudiswa a Nomboro, Tswayo na Vhushaka kha masiaṱari a 114–123 a *Nyendedzi ya Ḓivhaipfi*.

👥 Nyito ya 10

Ndi ḓivhaipfi ya nomboro ifhio ine ya kha ḓi fanela u kwamiwa kha Kotara ya 2?

_____

_____

U tandulula thaidzo

Vhagudisi vha fanela u ṋea vhagudi zwikhala zwinzhi zwa u tandulula thaidzo u itela uri vha kone u shumisa nḓivho ya mbalo na zwikili kha nyimele ntswa. Mitambo na nyito zwoṱhe zwi katela u tandulula thaidzo. Thaidzo dza ipfi kha mbalo dzi ḓivhadza tshakha tiwa dza u tandulula thaidzo dzine dza katela u tandulula thaidzo dza u ṱanganya, u ṱusa, u andisa na u kovha. Kha Gireidi ya Ṱ vhagudi vha tandulula thaidzo dza u ṱanganya na u ṱusa nga u vhalela na u shumisa zwithu zwi fareaho u itela u vha thusa u wana thandululo. Vha shumisa u kuvhanganya na u kovhana tshithu nga tshithu u itela u tandulula thaidzo dza muandiso na u kovha.

Khaedu khulwane kha u kumedza thaidzo dza ipfi kha vhagudi, ndi u vhona uri hu na u vhudziswa na tshumiso ya luambo zwo teaho. Musi vhagudisi vha tshi kumedza thaidzo ya ipfi, vha fanela u thetshelesa nga vhuronwane vhagudi na u vha endedza kha u tandulula thaidzo vha tshi shumisa maano o teaho ḽeveḽe dzavho dza u pfesesa.

Dziphositara dzi re ngomu ha *Bugu ya Dziphositara* dzo dizainwa u itela u ṋetshedza vhagudi sete dza zwifanyiso zwine zwa vha na vhushaka na vhutshilo havho na u ṋetshedza nyimele dza u tandulula thaidzo dza vhutshiloni ha vhukuma.

Kha Vhge ya 10 Ḓuvha ḽa 4 (siaṱari ḽa 180 ḽa *Nyendedzi ya Nyito: Kotara ya 2*), Phositara ya 1 yo shumiswa u ṱuṱuwedza vhagudi u tandulula thaidzo dzine dza katela nomboro 1–5.

Facilitator's notes

♦ In **Activity 11** participants refer to Poster 1 to generate a series of appropriate number-related questions.

♦ These questions cover the following skills: comparing, matching, counting, addition, subtraction, grouping and equal sharing. They should involve a range of vocabulary. Remind participants that the focus of their questions should be on maths and that the language used should be clear and simple. Use the examples below to wrap up **Activity 11**.

Comparing/one-to-one correspondence (matching)

- *Are there enough spoons for each bowl?*
- *How many more spoons do we need so that there is one spoon for each bowl?*
- *Are there more glasses on the top shelf or on the bottom shelf?*

Counting

- *How many glasses are there in the cupboard?*
- *Are there enough chairs for the number of people in the kitchen?*

Addition

- *There are four green apples and four red apples in the fridge. How many apples are there in the fridge?*
- *Thami has three blocks. There are four blocks on the floor. How many blocks are there altogether?*

Subtraction

- *There are six eggs in the door of the fridge. Dad cooks four eggs. How many eggs will be left in the fridge?*
- *There are five mugs in the kitchen. Four mugs are white. How many mugs are yellow?*
- *There are eight apples in the fridge. Four apples are green. How many apples are red?*

Grouping

- *Each child has two eyes. How many eyes would there be altogether on three children?*

Equal sharing

- *There are three oranges in a bag. Three children share the oranges. How many oranges will each child get?*

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.

👪 Nyito ya 11

Nga zwigwada zwavho, kha vha sedze kha Phositara ya 1. Kha vha humbule nga thaidzo dza ipfi dzo teaho dza tshiṅwe na tshiṅwe tsha zwikili izwi:

♦ u vhambedza

♦ u fanyia

♦ u vhalela

♦ u ṱanganya

♦ u ṱusa

♦ u khethekanya

♦ u kovhana u eḓana.

_____

_____

_____

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

Facilitator's notes
♦   In a whole group session ask for examples of questions for each of the categories. Write these on a flipchart for further discussion.
♦   Main point to discuss include: - The way that you structure the language in a word problem determines whether it is easy or difficult for the learners to understand and solve, e.g.: *There are 10 sweets. I eat 4. How many are left?* (This uses a simple language structure.) *I bought some sweets. I ate 6 sweets. There are 4 left. How many sweets did I buy?* (This uses a more difficult structure.) - Learners need to be exposed to different word-problem structures so that they are able to apply their skills and reasoning in different contexts.

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?

_____

_____

Counting using concrete apparatus, i.e. counters, physical number ladder, ten structure beads.

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

_____

_____

Use counters; orally solve problems.

_____

_____

_____

Musi vha tshi ita nyito dza thaidzo dza maipfi na vhagudi vhavho, kha vha vha tendele u shumisa minwe yavho kana zwithu zwa u vhalela ngazwo u vha thusa u tandulula thaidzo.

Notsi dza mutshimbidzi
♦ Kha dzulo ḽa tshigwada tshihulwane kha vha humbele tsumbo dza mbudziso dza khethekanyo iṅwe na iṅwe. Kha vha ṅwale izwi kha fiḽipitshati u itela u isa khaseledzo phanḓa.
♦ Mbuno khulwane dzine dza fanela u haseledzwa dzi katela:
- Nḓila ine vha dzudzanya luambo kha thaidzo dza ipfi zwi ta arali dzi tshi konḓa kana dzo leluwa u itela vhagudi u pfesesa na u tandulula, sa tsumbo:
Hu na maḽegere a 10. Nda ḽa 4. Ho sala mangana? (Izwi zwi shumisa mbumbo ya luambo yo leluwaho.)
Ndo renga maḽegere. Nda ḽa maḽegere a 6. Ho sala 4. Ndo renga maḽegere mangana? (Izwi zwi shumisa mbumbo ya luambo i konḓaho.)
- Vhagudi vha fanela u vhudzwa nga mbumbo dzo fhambanaho dza thaidzo dza ipfi u itela uri vha kone u shumisa zwikili na u ṋea muhumbulo kha nyimele dzo fhambanaho.

Iṅwe ya khethekanyo kha Nomboro, Tswayo na Vhushaka ndi, 'U tandulula thaidzo kha nyimele'. Zwigwadani zwavho, kha vha vhale manweledzo a magudiswa a Kotara ya 2 kha khethekanyo iyi i re kha siaṱari ḽa 121 ḽa *Nyendedzi ya Ḓivhaipfi*. Vha koneha u fhedzisa Nyito ya 12.

Nyito ya 12

Kha vha ambe nga Nyito ya 11.

1. Ndi ḓivhaipfi na zwikili zwifhio zwine zwa khou funzwa na u gudwa kha thero: Thekhiniki dza u tandulula thaidzo?

_____

_____

U vhalela vha tshi shumisa zwithu zwi fareaho, sa tsumbo: zwithu zwa u vhalela ngazwo, ḽeri ya nomboro ya vhukuma, vhulungu ha u vhalela ha fumi.

2. Ndi ḓivhaipfi na zwikili zwifhio zwine zwa khou funzwa na u gudwa kha thero: U ṱanganya na u ṱusa?

_____

_____

Kha vha shumise zwithu zwa u vhalela ngazwo; u tandulula thaidzo nga u tou amba.

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.

Facilitator's notes
- Find two see-through containers (e.g. peanut butter jars). Fill one with eight small objects and the other with eight larger objects.
- Ask:
  - *How many objects do you think are in this jar?*
  - *How many objects do you think are in the other jar?*
  - *Do you think there are the same number of objects in each jar?*
  - *How can we find out which jar has more objects?* (Count the objects.)
- Remind participants that estimation is a reasonable guess. By showing the same number of objects in the bottles but using different-sized objects, learners are focusing on the number rather than the size of the object or the amount of space they fill in the container (volume).

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*.

U anganyela

Vhagudi vha bveledza zwikili zwa u anganyela vha humbulela nga nḓila i 'pfalaho' nga 'ndi zwithu zwingana' zwi re hone kha khuvhanganyo. Nga tshifhinga tsha nyito dza u ela, vha anganyela uri tshithu tshilemela hani kana tsho lapfa hani, kana ndi khaphu nngana dzine dza ḓo ḓadza dzhege vha sa athu tshi ela.

<table>
<tr><td colspan="2">Notsi dza mutshimbidzi</td></tr>
<tr><td>♦</td><td>Kha vha wane zwifaredzi zwivhili zwi vhonadzaho (sa tsumbo: madzhomela a boḓoro ya nḓuhu). Kha vha ḓadze ḽithihi nga zwithu zwiṱuku zwa malo ngeno ḽiṅwe vha tshi ḽi ḓadza nga zwithu zwa malo zwihulwane.</td></tr>
<tr><td>♦</td><td>Kha vha vhudzise:
- Ni humbula uri hu na zwithu zwingana ngomu ha dzhomela iḽi?
- Ni humbula uri hu na zwithu zwingana kha ḽiṅwe dzhomela?
- Ni humbula uri hu na tshivhalo tshi fanaho tsha zwithu kha dzhomela ḽiṅwe na ḽiṅwe?
- Ri nga zwi wana hani uri ndi dzhomela ḽifhio ḽi re na zwithu zwinzhi? (Kha vha vhalele zwithu.)</td></tr>
<tr><td>♦</td><td>Kha vha humbudze vhashelamulenzhe uri u anganyela ndi u humbulela hu pfalaho. Nga u sumbedza tshivhalo tsha zwithu tshi fanaho tshi re ngomu ha maboḓelo fhedzi vha tshi shumisa zwithu zwa saizi dzo fhambanaho, vhagudi vha khou sedzesa kha tshivhalo u fhira saizi ya tshithu kana vhunzhi ha tshikhala tshine vha ḓadza ngomu ha tshifaredzi (voḽumu).</td></tr>
</table>

 Nyito ya 13

Mutshimbidzi u ḓo vha sumbedza madzhomela mavhili. Kha vha anganyele uri hu na zwithu zwingana ngomu ha dzhomela ḽiṅwe na ḽiṅwe vha fhindule mbudziso dzawe.

_____

_____

Vhagudi vha fanela u kona u shumisa ḓivhaipfi u fana na: *zwiṱukusa, zwinzhisa, u fhira, u eḓana, u sa eḓana, u ṱoḓa u swika kha, tsini na, u ṱoḓa u fana, u ṱahela zwiṱuku, u fhira zwiṱuku*.

Vhagudisi vha nga pulana nyito dza u anganyela dzine dza ṱuṱuwedza vhagudi u humbulela hu pfalaho nga tshivhalo tsha tshigwada tsha zwithu kana muelo wa tshithu.

Manweledzo a Magudiswa a Kotara ya 2: Vhege ya 10

Kha vha sedze kha Ṱhumetshedzo ya A: Manweledzo a Magudiswa a Vhege nga Vhege a Kotara ya 2 (Vhege ya 8–10). Kha vha vhale manweledzo a magudiswa a Vhege ya 10: Nomboro, Tswayo na Vhushaka kha siaṱari ḽa 21 ḽa *Nyendedzi ya Nyito: Kotara ya 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)).

Nyito ya 14

1. Ndi thero dzifhio dza Vhege ya 10?

   _____

   _____

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

   _____

   _____

   _____

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

   _____

   _____

   _____

Kha vha sedze kha nyito dza u anganyela dzi re kha Vhege ya 10 (*Nyendedzi ya Nyito: Kotara ya 2*, masiaṱari a 175 (Ḓuvha ḽa 1), 177 (Ḓuvha ḽa 2) na 179 (Ḓuvha ḽa 3)).

Session 4: Numbers, Operations and Relationships

<div align="right">**45 minutes**</div>

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.

Facilitator's notes

♦ In **Activity 15**, participants will use *Activity Guide: Term 2* to find the daily number routines and complete the table. This is to highlight the fact that number routines are practised every day of each week regardless of the Content Area Focus and to show the progression in number range across the 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				

Dzulo ḽa 4: Nomboro, Tswayo na Vhushaka

Mbekanyamushumo ya Mbalo i sedzesa kha Sia ḽa Magudiswa ḽithihi ḽa ndeme vhege iṅwe na iṅwe. Vha ḓo vha vho no zwi limuwa uri naho Sia ḽa Magudiswa ḽo Sedzwaho ḽa vhege nga vhege ḽi si 'nomboro', nḓowelo ya nomboro i bvela phanḓa ḓuvha ḽiṅwe na ḽiṅwe ḽa vhege iṅwe na iṅwe. Tshiitisi tsha izwi ndi uri ndovhololo na nḓowenḓowe ndi zwa ndeme kha u pfumbisa vhagudi kha u bveledza zwikili zwa nomboro.

Nyito dza kiḽasi yoṱhe ya ḓuvha ḽiṅwe na ḽiṅwe ḽa vhege tshifhinga tshoṱhe dzi thoma nga nḓowelo ya nomboro tharu:
♦ luimbo kana tshidade
♦ u vhalela ha mutevhetsindo
♦ u vhalela zwithu.
Nḓowelo dza nomboro tharu idzi dzi a pulanwa u itela u fanyisa tsielano ya nomboro ya kotara iṅwe na iṅwe.

Notsi dza mutshimbidzi

♦ Kha **Nyito ya 15**, vhashelamulenzhe vha ḓo shumisa *Nyendedzi ya Nyito: Kotara ya 2* u wana nḓowelo ya nomboro dza ḓuvha ḽiṅwe na ḽiṅwe na u fhedzisa thebuḽu. Izwi ndi u bvisela khagala fhungo ḽa uri nḓowelo dza nomboro dzi itwa nḓowenḓowe ḓuvha ḽiṅwe na ḽiṅwe ḽa vhege hu sa sedzwi Sia ḽa Magudiswa ḽo Sedzwaho na u sumbedza mvelaphanḓa kha tsielano ya nomboro kha kotara yoṱhe.

Nyito ya 15

Kha vha wane nḓowelo ya nomboro dza ḓuvha ḽiṅwe na ḽiṅwe dza Kotara ya 2 kha *Nyendedzi ya Nyito: Kotara ya 2* vha fhedzise thebuḽu. Vho itelwa Vhege ya 1.

Vhege	Sia ḽa Magudiswa ḽo Sedzwaho	Luimbo kana tshidade	U vhalela ha mutevhetsindo	U vhalela zwithu
1	Nomboro, Tswayo na Vhushaka	Tshidade u bva kha Kotara ya 1	1–10 5–1	1–5 (tshati ya maḓuvha a mabebo)
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.

3				
4				
5				
6				
7				
8				
9				
10				

Mui vho no lavhelesa magudiswa a nomboro a Kotara ya 2, vha ḓo vha vho zwi vhona uri nḓowelo dza nomboro dzi itwa nḓowenḓowe ḓuvha ḽiṅwe na ḽiṅwe ḽa vhege iṅwe na iṅwe hu sa sedzwi Sia ḽa Magudiswa ḽo Sedzwaho na uri u bvela phanḓa kha mutevhe wa nomboro hu engedzea kha kotara yoṱhe.

Session 5: Term 2 Assessment

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.

Facilitator's notes
♦ PPT: Rubric with the 1–7 rating scale. ♦ Discuss how the descriptions in the rubric provide distinguishing assessment criteria for each rating code.

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.

_____
_____
_____
_____
_____

Dzulo ḽa 5: U linga kha Kotara ya 2

Vidiyo ya 2

Kha vha ṱalele vidiyo ya mugudisi a tshi khou kumedza thaidzo dza ipfi kha tshigwada tshiṱuku tsha vhagudi.

Kha vha sedze uri mugudi muṅwe na muṅwe u tandulula thaidzo hani. Kha vha dzhiele nzhele uri mugudisi u shumisa hani u ṱuṱula musi mugudi e na vhuleme.

Notsi dza mutshimbidzi
♦   PPT: Ruburiki i re na khoudu ya u ela 1–7.
♦   Kha vha haseledze uri ṱhaluso dzi re ngomu ha ruburiki dzi ṋetshedza hani milayo ya u linga i fhambanyaho u itela khoudu ya u ela iṅwe na iṅwe.

Nyito ya 16

Kha vha lavhelese ruburiki i re kha siaṱari ḽa 107 ḽa *Nyendedzi ya Ḓivhaipfi*.

Zwigwadani zwavho, kha vha haseledze uri vha ḓo ṋea hani maraga mugudi muṅwe na muṅwe vha tshi shumisa tsha u ela itshi. Kha vha ṋee mihumbulo yavho u itela tsheo dzavho zwo ḓisendeka nga milayo ya u linga ya khoudu ya u ela iṅwe na iṅwe.

_____
_____
_____
_____
_____

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.

Nyito dza u vala

Notsi dza mutshimbidzi

♦ **U amba nga wekishopo:** Kha vha humbele vhashelamulenzhe u dzhia minetse i si gathi u amba nga ḓuvha na u fhenḓa *Bugu ya Mushumo ya Vhashelamulenzhe*. Kha vha vha humbele u ṅwala mbudziso dziṅwe na dziṅwe kana mahumbulwa u itela u kovhana na tshigwada tshihulwane.

♦ **Mushumo wa u ṱuwa nawo tshikoloni:** Kha vha vhale mushumo uyu. Kha vha vhudzise arali hu na zwiṅwe zwi sa pfali zwine zwa ṱoḓa u ṱalutshedzwa.

♦ **U linga:** Kha vha phakhele khophi dza Fomo ya u Linga ya Wekishopo vha ri vhashelamulenzhe vha ḓadze idzo fomo

♦ **Wekishopo i tevhelaho:** Kha vha ṋee maḓuvha a wekishopo i tevhelaho vha vale wekishopo.

Nyito ya 17

U amba nga wekishopo: Kha vha dzhie minetse i si gathi u amba nga ḓuvha. Kha vha fhenḓe *Bugu ya Mushumo ya Vhashelamulenzhe* u ḓihumbudza nga zwe zwa kwamiwa. Kha vha ṅwale mbudziso dziṅwe na dziṅwe kana vha ṋee muhumbulo u itela u kovhana na tshigwada tshihulwane.

_____
_____
_____
_____
_____

---

❶ Mushumo wa u ṱuwa nawo tshikoloni

1. Kha vha shumise *Nyendedzi ya Nyito: Kotara ya 2* u itela u pulana na u thoma Vhege ya 8–10 dza Mbekanyamushumo ya Mbalo.

2. Kha vha ṅwale zwe vha ṱola zwa zwe zwa shuma zwavhuḓi, zwe zwa si shume zwavhuḓi na zwine vha nga ita nga iṅwe nḓila yo fhambanaho u itela u khwiṅisa u funza na u guda.

3. Kha vha ḓe na zwe vha ḓiṱola kha wekishopo i tevhelaho.

U linga

Kha vha ḓadze Fomo ya u Linga.

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

Term 2: Activity Plan

| Week 8				
CONTENT AREA: SPACE AND SHAPE (GEOMETRY)				
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				
Whole class activities		**Teacher-guided activity**	**Workstation activities**	
Day 1	Forwards/backwards.	Counting – show me 1–3, 5–7 counters. Working with all taught shapes. Midline crossing. Position – direction. Forwards/backwards.	**Activity 1**	Sorting activity – using cut-out shapes.
Day 2	Reinforce all shapes (I spy …).		**Activity 2**	Make shapes using playdough and make a copy.
Day 3	Shape game.		**Activity 3**	Masking tape shapes – learners follow shapes using blocks.
Day 4	What can I do: Lost my … (shape).			
Day 5	Obstacle course (requires a big space/outdoors). Midline crossing.		**Activity 4**	Match shapes using shape cards.
Week 9				
CONTENT AREA: MEASUREMENT				
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				
Whole class activities		**Teacher-guided activity**	**Workstation activities**	
Day 1	Longer/shorter (height).	Longer than/shorter than. Taller than/shorter than. Measurement with everyday objects.	**Activity 1**	Shorter/longer (pre-cut strips of different length).
Day 2	Comparing lengths of ribbons.		**Activity 2**	Wiggly worms (to make a poster shortest to longest).
Day 3	Sorting objects by length (coloured paper strips).		**Activity 3**	Measure blocks using string.
Day 4	Height chart comparison (from Term 1).		**Activity 4**	Playdough and lined paper (different lengths).
Day 5	Height chart comparison (taller/shorter than you).			

## ṰHUMETSHEDZO YA A: MANWELEDZO A MAGUDISWA A VHEGE NGA VHEGE A KOTARA YA 2 (VHEGE YA 8–10)
Kotara ya 2: Pulane ya Nyito

Vhege ya 8				
SIA ḼA MAGUDISWA: TSHIKHALA NA TSHIVHUMBEO (DZHOMEṰIRI)				
THERO: Vhunzani ha zwivhumbeo – u vhambedza zwi fanaho na zwo fhambanaho, u vhekanya u ya nga vhunzani; vhuimo; orienthesheni na mbonalo **U ḒIVHADZA NḒIVHO NTSWA:** U tevhela sia na u pfuka mutalo wa vhukati **NḒOWEDZO:** U vhalela ha mutevhetsindo 1–20, u vhalela u humela murahu u bva kha 7, u tevhekanya nomboro 1–5, u vhalela zwithu 1–7, u khwaṱhisedza ḓivhaipfi ya nomboro 1–5, ndi nomboro ifhio i ḓaho phanḓa ha/murahu ha, u ita nḓowenḓowe vha tshi shumisa zwivhumbeo zwoṱhe				
Nyito dza kiḽasi yoṱhe		**Nyito yo rangwaho phanḓa nga mugudisi**	**Nyito dza tshiṱitshini tsha u shumela**	
Ḓuvha ḽa 1	Phanḓa/murahu.	U vhalela – ntsumbedzeni zwithu zwa u vhalela ngazwo 1–3, 5–7. U shuma na zwivhumbeo zwoṱhe zwo funzwaho. U pfuka mutalo wa vhukati. Vhuimo – sia. Phanḓa/murahu.	**Nyito ya 1**	Nyito ya u vhekanya – vha tshi shumisa zwivhumbeo zwo tou gerwaho.
Ḓuvha ḽa 2	U khwaṱhisedza zwivhumbeo zwoṱhe (Ndi ṱola …).		**Nyito ya 2**	U ita zwivhumbeo vha tshi shumisa suko ḽa u tambisa na u ita khophi.
Ḓuvha ḽa 3	Mutambo wa zwivhumbeo.		**Nyito ya 3**	Zwivhumbeo zwa theiphi ya u nambatedza – vhagudi vha tevhela zwivhumbeo vha tshi shumisa zwibuḽoko.
Ḓuvha ḽa 4	Ndi nga ita mini: Ndo xedza … (tshivhumbeo).		**Nyito ya 4**	U fanyisa zwivhumbeo vha tshi shumisa magaraṱa.
Ḓuvha ḽa 5	Mutambo wa tshikundisi tshi fanelaho u kundwa (u ṱoḓa tshikhala tshihulwane/nnḓa). U pfuka mutalo wa vhukati.			
Vhege ya 9				
SIA ḼA MAGUDISWA: MUELO				
THERO: Vhulapfu – u vhambedza na u tevhekanya zwithu vha tshi shumisa ḓivhaipfi yo teaho u ṱalusa vhulapfu **U ḒIVHADZA NḒIVHO NTSWA**: U ela na u vhambedza vhulapfu (ndapfu/pfufhi, ndapfusa/pfufhisa, ndapfusesa/pfufhisesa) **NḒOWEDZO:** U vhalela ha mutevhetsindo 1–20, u vhalela u humela murahu u bva kha 7, u vhalela zwithu 1–7, u anganyela 1–7, ndapfu/pfufhi				
Nyito dza kiḽasi yoṱhe		**Nyito yo rangwaho phanḓa nga mugudisi**	**Nyito dza tshiṱitshini tsha u shumela**	
Ḓuvha ḽa 1	Ndapfusa/pfufhisa (vhunṱha).	Ndapfu kha/pfufhi kha. Ndapfu kha/pfufhi kha. U ela nga zwithu zwa ḓuvha na ḓuvha.	**Nyito ya 1**	Zwipfufhisa/zwilapfusa (zwiṱiripi zwa mabammbiri a vhulapfu ho fhambanaho zwo dzulaho zwo gerwa).
Ḓuvha ḽa 2	U vhambedza vhulapfu ha dziriboni.			
Ḓuvha ḽa 3	U vhekanya zwithu nga vhulapfu (zwipiḓa zwa zwiṱiripi zwa mabammbiri a mivhala).		**Nyito ya 2**	Mbungu (dza u ita phositara pfufhisesa na ndapfusesa).
Ḓuvha ḽa 4	U vhambedza tshati ya vhunṱha (u bva kha Kotara ya 1).		**Nyito ya 3** **Nyito ya 4**	U ela zwibuḽoko vha tshi shumisa muḓali. Suko ḽa u tambisa na bammbiri ḽa mitaladzi (vhulapfu ho fhambanaho).
Ḓuvha ḽa 5	U vhambedza tshati ya vhunṱha (mulapfusa/mupfufhisa kha inwi).			

APPENDIX B: SHAPES FOR SORTING/ṮHUMETSHEDZO YA B: ZWIVHUMBEO U ITELA U VHEKANYA

Cut along the dotted lines./Kha vha gere kha mutalo u mona na zwithoma.
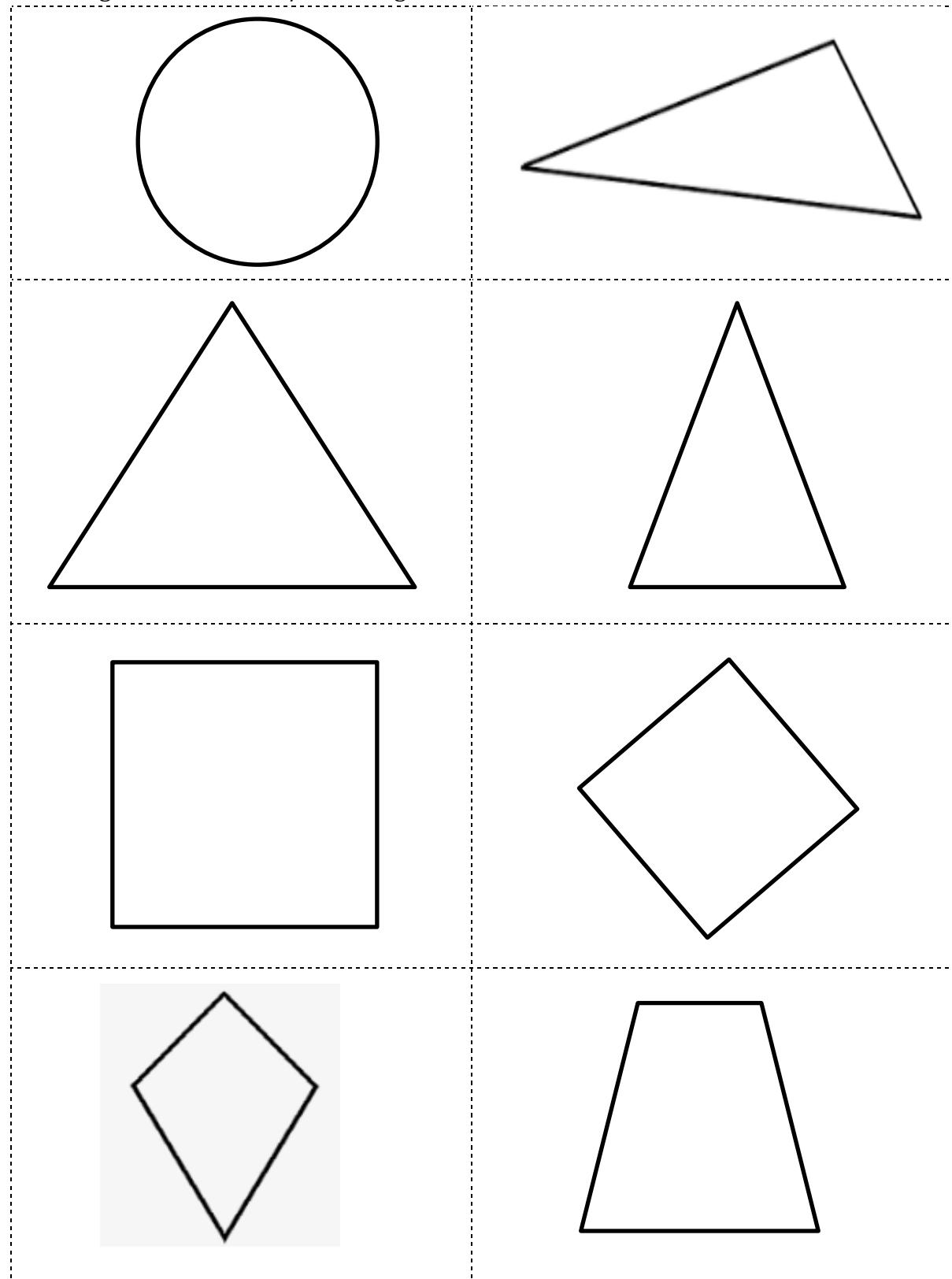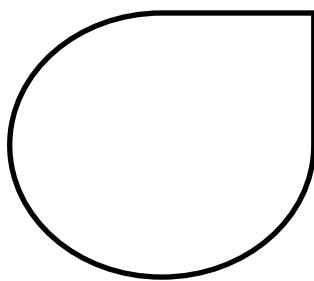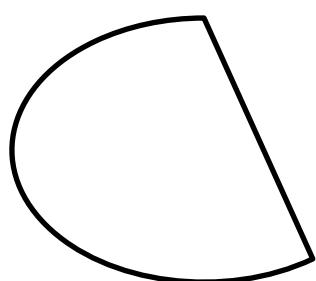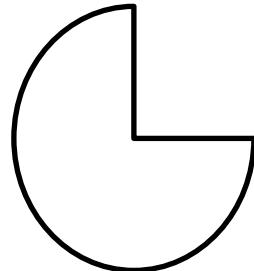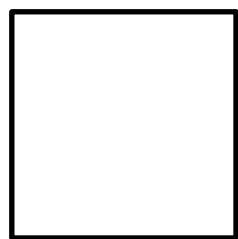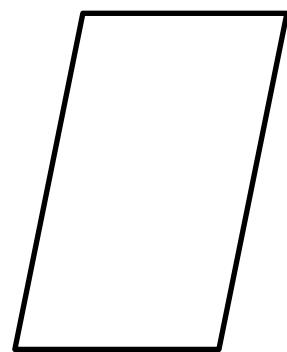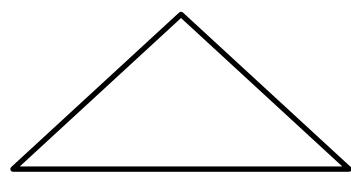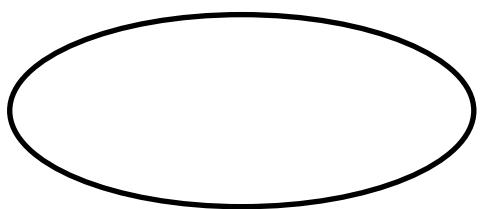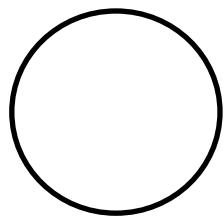
Workshop 6 Evaluation Form

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 u Linga ya Wekishopo ya 6

1. Wekishopo yo swikelela ndavhelelo dzavho?

   _____
   _____
   _____
   _____

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

   _____
   _____
   _____
   _____

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

   _____
   _____
   _____
   _____

4. Vha ḓo shumisa hani zwe vha guda ngomu kiḽasirumuni yavho ya Gireidi ya Ṱ?

   _____
   _____
   _____
   _____

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

   _____
   _____
   _____