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GROWING GAUTENG TOGETHER

Tshivenda/English

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



Wekishopo ya 2 • Workshop 2

Bugu ya Mushumo ya Vhashelamulenzhe • Participant's Workbook

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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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Overview

Purpose

This is the second of twelve Grade R Mathematics Improvement Programme workshops, which form part of the Gauteng Department of Education (GDE) Grade R Mathematics and Language Improvement Project.

The purpose of this workshop is to assist teachers to implement the Maths Programme in their classrooms. The focus of this workshop is Space and Shape (Geometry). Participants will strengthen their knowledge and understanding of teaching and learning in this Content Area, prepare for teaching Space and Shape (Geometry) activities in their classrooms and reflect on the guiding principles that inform teaching.

Learning outcomes

- ◆ To reflect on the implementation of Term 1 Weeks 1–2
- ◆ To explore strategies to support teaching maths in Grade R (e.g. problem solving, investigation, exploration, questioning, critical thinking, active listening, observation)
- ◆ To engage with the Maths Programme content of Term 1 Weeks 3–5 (Space and Shape (Geometry))
- ◆ To apply the Maths Programme principles in weekly planning

Workshop content

- ◆ Opening and reflection (1 hour)
 - ◆ Session 1: Content overview (1 hour)
- TEA
- ◆ Session 2: Space and Shape (Geometry) (2 hours)
- LUNCH
- ◆ Session 3: Planning for teaching (2 hours)

Manweledzo

Ndivho

Iyi ndi wekishopo ya vhuvhili 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. Zwo sedzeswaho kha iyi wekishopo ndi Tshikhala na Tshivhumbeo (Dzhomeṭiri). Vhashelamulenzhe vha ḁo khwaḁhisa ndivho yavho na u pfesesa u funza na u guda kha Sia ḁa Magudiswa ḁi, u lugisela u funza nyito dza Tshikhala na Tshivhumbeo (Dzhomeṭiri) ngomu kiḁasirumuni dzavho na u humbula nga milayo ya nyendedzi ine ya thusedza kha u funza.

Mvelelo dza u guda

- ◆ U humbula nga u thomiwa ha Kotara ya 1 Vhege ya 1-2
- ◆ U tandula maano u itela u tikedza u funza mbalo kha Gireidi ya Ṭ (sa tsumbo, u tandulula thaidzo, tsenguluso, thandululo, u vhudzisa mbudziso, u humbula hu sasaladzaho, u thetshesela nga mafufufulu, u vhona)
- ◆ U shuma na magudiswa a Mbekanyamushumo ya Mbalo a Kotara ya 1 Vhege ya 3-5 (Tshikhala na Tshivhumbeo (Dzhomeṭiri))
- ◆ U shumisa milayo ya Mbekanyamushumo ya Mbalo kha u pulana ha vhege nga vhege

Magudiswa a wekishopo

- ◆ Mvulatswinga na mihumbulo (Awara 1)
 - ◆ Dzulo ḁa 1: Manweledzo a magudiswa (Awara 1)
- TIE
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- TSHISWIṬULO
- ◆ Dzulo ḁa 3: U pulanela u funza (Awara 2)

Opening and reflection

1 hour

In your Workshop 1 *Take back to school* task you were asked to complete several activities. We would like you to spend a few minutes reflecting on your progress so far.

In your groups, think about your maths teaching over the past two weeks and how successfully you have implemented Term 1 Weeks 1-2.



Activity 1

In your group, discuss your successes and challenges with implementing Term 1 Weeks 1-2 of the Maths Programme. Allow each person to have a turn to present their reflections.

1. Briefly describe how you organised your classroom and how you prepared for teaching these two weeks.

2. Discuss what worked well and what you found difficult to implement. Does anyone have any helpful suggestions?

3. Share how and when you applied the guiding principles of teaching in your daily programme Mathematics focus time?

Mvulatswinga na mihumbulo

Awara 1

Kha *Mushumo wa u tuwa nawo tshikoloni* wavho wa Wekishopo ya 1 vho humbelwa u ita nyito dzo vhalaho. Ri khou toda u fhedza minetse i si gathi ri tshi khou amba nga mvelaphanda u swika zwino.

Vha tshigwadani tshavho, kha vha humbule nga u funza havho mbalo vhegeni mbili dzo fhiraho na uri vho konisa hani u thoma Kotara ya 1 Vhege ya 1-2.



Nyito ya 1

Tshigwadani tshavho, kha vha haseledze zve vha kona na khaedu dza u thoma Kotara ya 1 Vhege ya 1-2 zwa Mbekanyamushumo ya Mbalo. Kha vha tendele muthu muñwe na muñwe uri a wane tshikhala tsha u kumedza mihumbulo yawe.

1. Kha vha taluse nga u pfufhifhadza uri vho dzudzanyisa hani ki lasirumu yavho na uri vho lugisela hani u funza vhegeni idzi mbili.

2. Kha vha haseledze zve zwa shuma zwavhudi na zve vha wana vhuleme u zwi thoma. Hu na ane a vha na madzinginywa ane a nga thusa?

3. Kha vha ri talutshedze uri vho shumisa hani nahone lini milayo ya nyendedzi ya u funza kha mbekanyamushumo yavho ya duvha liñwe na liñwe ya tshifhinga tsho sedzwaho tsha Mbalo?



Video 1

Watch the video of the teacher-guided activity which involves a small group of learners.

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.

In Workshop 1 we discussed the eight guiding principles of teaching maths in Grade R. Activity 2 requires that you to match each of the eight principles with two statements that best describe it.



Activity 2

1. Each group has been given an envelope containing a number of strips. Find the eight guiding principles of teaching and place them in a row on your table.
2. Discuss each of the statements and decide with which principle it fits best. Place the statement under this principle.



Vidiyo ya 1

Kha vha ɔalele vidiyo ya nyito yo rangwaho phanɔa nga mugudisi ine ya katela tshigwada tshiɔuku tsha vhagudi.

Vha humbula uri ndivho ya nyito ndi ifhio? Kha vha dzhie nzhele uri mugudisi u ɔuɔwedza hani vhagudi nga mbudzi na uri u lavhelesa hani mugudi muɔwe na muɔwe.

Kha Wekishopo ya 1 ro hasedza milayo ya nyendedzi ya malo ya u funza mbalo kha Gireidi ya T. Nyito ya 2 i ɔɔa uri vha fanyise muɔwe na muɔwe wa milayo ya malo na zwitatamennde zwivhili zwine zwa kona u u ɔalusa zwavhuɔi.



Nyito ya 2

1. Tshigwada tshiɔwe na tshiɔwe tsho ɔewa fulobo i re na tshivhalo tsha zwiɔiripi. Kha vha wane milayo ya nyendedzi ya malo ya u funza vha i vhee nga mutevhe kha ɔafula yavho.
2. Kha vha hasedze tshitamennde tshiɔwe na tshiɔwe vha dzhie tsho ya uri tshi tshimbilelana na mulayo ufhio. Kha vha vhee tshitamennde fhasi ha mulayo uyu.

Session 1: Content overview

1 hour

Term 1 Content overview: Space and Shape (Geometry)

The content for teaching and learning in Weeks 3–5 focuses mainly on the CAPS Content Area, Space and Shape (Geometry). This content involves more than teaching learners to identify geometric shapes. Their understanding of space and shape depends to a large extent on whether they understand and can use position vocabulary to describe the location of an object (e.g. on, in, next to, behind, in front of). Learners also need to be able to see objects from different positions or views (e.g. from the top, from the bottom, turned sideways, flipped upside down).

Read the content overview for Space and Shape (Geometry) on pages 126–131 of the *Concept Guide*. It provides an overview of the Maths Programme content to be taught in each term of Grade R.

- ◆ The text in blue is the content from the Grade R CAPS for Mathematics.
- ◆ The text descriptions and content in black have been added to extend and build on CAPS.
- ◆ The topics are sequenced to show a developmental progression from one topic to another.



Activity 3

Look at 3.1–3.4 of the content overview for Space and Shape (Geometry) on pages 126–131 of the *Concept Guide*. In your group, do the following:

1. Look at each topic and discuss the content and developmental progression across the four terms.

Manweledzo a magudiswa a Kotara ya 1: Tshikhala na Tshivhumbeo (Dzhometiri)

Magudiswa a u funza na u guda kha Vhege ya 3–5 a sedzesa zwi hulusa kha Sia la Magudiswa la TSHIPHOKHALI, Tshikhala na Tshivhumbeo (Dzhometiri). Magudiswa aya a katela zwi fhiraho u funza vhagudi u topola zwivhumbeo zwa dzhometiri. Kupfeselele kwavho kwa tshikhala na tshivhumbeo zwo ditika nga maanda kha uri vha a pfesesa naa nahone vha nga shumisa divhaipfi ya vhuimo u talusa hune tshithu tsha vha hone (sa tsumbo, kha, ngomu, tsini na, murahu, phanda ha). Vhagudi vha tea hafhu uri vha kone u vhona zwithu u bva vhuimoni ho fhambanaho kana mbonalo (sa tsumbo, u bva ntha, u bva fhasi, rembuluselwa matungo othe, tsho shandulwa).

Kha vha vhale manweledzo a magudiswa a Tshikhala na Tshivhumbeo (Dzhometiri) kha masiatari a 126–131 a *Nyendedzi ya Divhaipfi*. A nsetshedza manweledzo a magudiswa a Mbekanyamushumo ya Mbalo ane a do funzwa kha kotara inwe na inwe kha Gireidi ya T.

- ◆ Manwalwo nga muvhala wa lutombo ndi magudiswa a bvaho kha Mbalo dza Gireidi ya T dza TSHIPHOKHALI.
- ◆ Thalutshedzo ya manwalwo na magudiswa nga muvhala mutswu zwo dzheniswa u itela u engedza na u fhaa kha TSHIPHOKHALI.
- ◆ Thero dzo tevhekanywa u sumbedza mvelaphanda ya mveledziso u bva kha thero inwe u ya kha inwe.



Nyito ya 3

Kha vha lavhelese kha 3.1–3.4 kha manweledzo a magudiswa a Tshikhala na Tshivhumbeo (Dzhometiri) kha masiatari a 126–131 a *Nyendedzi ya Divhaipfi*. Tshigwadani tshavho, kha vha ite zwi tevhelaho:

1. Kha vha lavhelese thero inwe na inwe vha haseledze magudiswa na mvelaphanda ya mveledziso kha kotara dzothe na.

2. Look at the text in black and discuss what the Maths Programme adds to the content from CAPS.

3. Why do you think that the weighting of Space and Shape (Geometry) is the second highest of the Content Areas in Grade R?

4. How have you approached teaching Space and Shape (Geometry) in your classroom? Give examples of lessons and activities that you have used in the past.

2. Kha vha lavhelese kha liṅwalo liṅswu vha haseledze zwine Mbekanyamushumo ya Mbalo ya engedza kha magudiswa u bva kha TSHIPHOKHALI.

3. Ndi ngani vha tshi humbula uri maraga dza Tshikhala na Tshivhumbeo (Dzhometiri) ndi dza vhuvhili nga u vha nṅhesa kha Sia la Magudiswa kha Gireidi ya T?

4. Vho funzisa hani Tshikhala na Tshivhumbeo (Dzhometiri) ngomu kelasini yavho? Kha vha nṅee tsumbo dza ngudo na nyito dze vha dzi shumisa tshifhingani tsho fhiraho.

Session 2: Space and Shape (Geometry)

2 hours

Spatial concepts

(30 minutes)

Learners start to learn about spatial concepts such as position, direction, orientation (different views) and perspective as they use their own bodies to explore the relationship between themselves, other people and objects.



Activity 4

The facilitator has set up a simple obstacle course. With a partner take turns to guide each other through the obstacle course. Use positional and directional language to give clear instructions.

Using the *Poster Book* to talk about position and direction

The Maths Programme's *Poster Book* provides opportunities to use real-life contexts to explore concepts. On Poster 9 of the *Poster Book* you can see where Malusi lives in relation to other people and places in his neighbourhood. This poster can be used to stimulate discussion about the position of people and objects in relation to one another and to encourage learners to use and become familiar with the language that describes space, position and direction. Learners link maths to their everyday lives as they discuss and solve problems.



Activity 5

In your group, look at Poster 9 and discuss the following:

1. What position and direction words could you introduce to learners and encourage them to use?

2. What other questions could you ask learners that would help them to learn about position, direction, orientation (views) and perspective?

Refer to pages 172–177 of the *Concept Guide* to read more about space.

Dzulo la 2: Tshikhala na Tshivhumbeo (Dzhometiri)

Awara 2

Divhaipfi ya tshikhala

(Minetse ya 30)

Vhagudi vha thoma u guda nga divhaipfi ya tshikhala u fana na vhuimo, sia, orienthesheni (mbonalo dzo fhambanaho) na mbonalo vhukuleni zwenezwi vha tshi khou shumisa mivhili yavho u tandula vhushaka vhukati ha vhone vhaṅe, vhaṅwe vhathu na zwithu.



Nyito ya 4

Mutshimbidzi o dzudzanya tshikundisi tshi fanelaho u kundwa tsho leluwaho. Na mufarakani kha vha sielisane u gaidana u fhira kha tshikundisi tshi fanelaho u kundwa. Kha vha shumise luambo lwa vhuimo na sia u ṅea ndaela dzi sa kanganyisi.

U shumisa *Bugu ya Dziphositara* u amba nga vhuimo na sia

Bugu ya Dziphositara ya Mbekanyamushumo ya Mbalo i ṅetshedza zwikhala zwa u shumisa nyimele dza vhtushilo ha vhukuma u tandula divhaipfi. Kha Phositara ya 9 ya *Bugu ya Dziphositara* vha nga vhona hune Malusi a dzula hone zwi tshi elana na vhaṅwe vhathu na fhethu hu re vhuṅoni ha hawe. Phositara iyi i nga shumiswa u ṅṅula khaseledzo nga vhuimo ha vhathu na zwithu zwi tshi elana na zwone zwine na u ṅṅuwedza vhagudi u shumisa na u divha luambo lune lwa ṅalusa tshikhala, vhuimo na sia. Vhagudi vha ṅuma mbalo na vhtushilo havho ha ṅuvha liṅwe na liṅwe zwenezwi vha tshi khou haseledza na u tandulula thaidzo.



Nyito ya 5

Tshigwadani tshavho, kha vha lavhelese kha Phositara ya 9 vha haseledze zwi tevhelaho:

1. Ndi maipfi afhio a vhuimo na sia ane vha nga a divhadza vhagudi na u vha ṅṅuwedza u a shumisa?

2. Ndi dziṅwe mbudziso dzifhio dzine vha nga vhudzisa vhagudi dzine dza ṅo vha thusa u guda nga vhuimo, sia, orienthesheni (mbonalo) na kuhumbulele?

Kha vha sedze masiatari a 172–177 a *Nyendedzi ya Divhaipfi* u itela u vhalala zwinzhi nga tshikhala.

Introducing shapes

(1 hour)

In Grade R learners focus on recognising, identifying and naming three-dimensional (3-D) objects and two-dimensional (2-D) shapes.

- ◆ 3-D means that an object has three dimensions: length, breadth (width) and height.
- ◆ 2-D means that a shape has two dimensions: length and breadth (width).

Recognising, identifying and comparing three-dimensional objects

In Grade R learners explore the properties of everyday objects. They build constructions using recycled household materials such as boxes, cans, tubs, toilet roll inner, balls and so on. They investigate and describe box- and ball-shaped objects. They compare and sort objects and talk about similarities and differences.



Video 2

Watch the video of a teacher talking to learners who are sorting a collection of objects. Listen to how she prompts the learners to explain how they are sorting the objects and how to use the correct terms to describe each object.

Refer to pages 178–181 of the *Concept Guide* to read more about 3-D objects.

Moving from 3-D objects to 2-D shapes

In Grade R, the focus is on the properties of objects and shapes. Learners learn to identify and describe the properties of both objects and shapes.

U ðivhadza zwivhumbeo

(Awara 1)

Kha Gireidi ya T̄ vhagudi vha sedzesa kha u vhona, u topola na u bula zwithu zwa mielo miraru (3-D) na zwivhumbeo zwa mielo mivhili (2-D).

- ◆ 3-D zwi amba uri tshithu tshi na mielo miraru: vhulapfu, vhuphara (u ðandavhuwa) na vhunþha.
- ◆ 2-D zwi amba uri tshivhumbeo tshi na mielo mivhili: vhulapfu na vhuphara (u ðandavhuwa).

U vhona, u topola na u vhambedza zwithu zwa mielo miraru

Kha Gireidi ya T̄ vhagudi vha tandula vhunzani ha zwithu zwa ðuvha liñwe na liñwe. Vha fhaþa mbumbo vha tshi shumisa matheriala a nduni o bikululwaho u fana na mabogisi, zwikotikoṭi, zwidongo, bammbiri la ngomu ha rolo ya bungani, ngauralongauralo. Vha sengulusa na u ðalusa zwithu zwa zwivhumbeo zwa bogisi na bola. Vha vhambedza na u vhekanya zwithu vha amba nga zwi fanaho na zwi fhambanaho.

Kha vha sedze masiaṭari a 178–181 a *Nyendedzi ya Divhaipfi* u itela u vhala zwinzhi nga zwithu zwa mielo miraru (3-D).

U ratha u bva kha zwithu zwa 3-D u ya kha zwivhumbeo zwa 2-D

Kha Gireidi ya T̄, hu sedzeswa kha vhunzani ha zwithu na zwivhumbeo. Vhagudi vha guda u topola na u ðalusa vhunzani ha zwithu na zwivhumbeo.



Activity 6

Explore and describe the properties of a box.

- ◆ Place a box on a piece of paper.
- ◆ Trace around the base of the box.
- ◆ Describe the lines of your drawing.
- ◆ Name the shape you have drawn.
- ◆ How do you know it's a square/rectangle?
- ◆ How many sides does it have?
- ◆ How many corners does it have?
- ◆ What is the difference between the box and the square/rectangle?

Recognising, describing and comparing two-dimensional shapes

Learners need to observe and discuss a variety of 2-D shapes to find out what the common properties of a particular shape are, e.g. even though all triangles may not look exactly the same, they all have three sides and three corners; all rectangles have four sides regardless of the orientation.

Use the attribute blocks on your table to explore 2-D shapes.



Activity 7

In your group, talk about the shape of the surface of each attribute block.

- ◆ Look for a shape that has four corners.
- ◆ Use your finger to trace around the shape. What is the shape called?
- ◆ Look for a shape that has no straight sides.
- ◆ Use your finger to trace around the shape. What is the shape called?
- ◆ Look for a shape that has three sides that are exactly the same.

Refer to pages 182–189 of the *Concept Guide* to read more about 2-D shapes.



Nyito ya 6

Kha vha tandule na u țalusa vhunzani ha bogisi.

- ◆ Kha vha vhee bogisi kha tshipiđa tsha bammberi.
- ◆ Kha vha oledzele u mona na fhasi ha bogisi.
- ◆ Kha vha țaluse mitalo ya nyolo yavho.
- ◆ Kha vha bule tshivhumbeo tshe vha ola.
- ◆ Vha zwi ðivha hani uri ndi tshikwea/țhofundeina?
- ◆ Tshi na masia mangana?
- ◆ Tshi na khuđa nngana?
- ◆ Ndi phambano ifhio i re vhukati ha bogisi na tshikwea/țhofundeina?

U vhona, u țalusa na u vhambedza zwivhumbeo zwa mielo mivhili

Vhagudi vha fanela u vhona na u haseledza zwivhumbeo zwo fhambanaho zwa 2-D u itela u wana uri ndi zwidodombedzwa zwifhio zwi fanaho zwa tshivhumbeo tiwa, sa tsumbo, naho hu na uri țhofunderaru dzoțhe dzi nga si fane kokotolo, dzoțhe dzi na masia mararu na dzikhuđa tharu; țhofundeina dzoțhe dzi na masia maņa hu sa sedzwi orienthesheni.

Kha vha shumise zwibułoko zwa zwidodombedzwa zwi re kha țafula yavho u itela u tandula zwivhumbeo zwa 2-D.



Nyito ya 7

Tshigwadani tshavho, kha vha ambe nga tshivhumbeo tsha nyalo ya tshibułoko tsha zwidodombedzwa tshiñwe na tshiñwe.

- ◆ Kha vha țođe tshivhumbeo tshi re na khuđa nņa.
- ◆ Kha vha shumise minwe yavho u oledzela u mona na tshivhumbeo. Tshivhumbeo itsho tshi vhidzwa mini?
- ◆ Kha vha țođe tshivhumbeo tshi si na masia tswititi.
- ◆ Kha vha shumise minwe yavho u oledzela u mona na tshivhumbeo. Tshivhumbeo itsho tshi vhidzwa mini?
- ◆ Kha vha țođe tshivhumbeo tshi re na masia maņa ane a fana kokotolo.
- ◆ Kha vha shumise minwe yavho u oledzela u mona na tshivhumbeo. Tshivhumbeo itsho tshi vhidzwa mini?
- ◆ Kha vha țođe tshivhumbeo tshi re na masia mararu ane a fana kokotolo.
- ◆ Kha vha shumise minwe yavho u oledzela u mona na tshivhumbeo. Tshivhumbeo itsho tshi vhidzwa mini?
- ◆ Kha vha humbule nga mbudziso ine ya ðo țuțuwedza vhagudi u humbula na u ñea muhumbulo.

Kha vha sedze masiatari a 182–189 a *Nyendedzi ya ðivhaipfi* uri vha vhale zwinzhi nga zwivhumbeo zwa 2-D.

Symmetry

(30 minutes)

An object or shape has symmetry when it can be divided into two equal halves along a central line. Symmetrical patterns can be found on our bodies, in nature, in the built environment and in pictures. Line symmetry divides the shape into two identical parts. The line can be horizontal or vertical.

Refer to pages 188–191 of the *Concept Guide* to read more about symmetry.

The **practice principle:** Learners should have plenty of time to practise new skills and knowledge. When learners have regular practice in what they have already learnt, they become more competent and more confident. Learners enjoy repetition and practice. The Grade R teacher should provide repeated opportunities for learners to practise and improve new skills.

Ndinganyahuvhili

(Minetse ya 30)

Tshithu kana tshivhumbeo tshi na ndinganyahuvhili musi tshi tshi nga kovhiwa nga hafu mbili dzi eđanaho mutaloni watsho wa vhukati. Phetheni dza ndinganyahuvhili dzi nga wanala kha mivhili yashu, muponi, vhuponi ha zwifhatwa na kha zwifanyiso. Mutalo wa ndinganyahuvhili u khethekanya tshivhumbeo tsha bva zwipida zwivhili zwi fanaho. Mutalo u nga vha wa vhutengu kana wa nzimo.

Kha vha sedze masiatari a 188–191 a *Nyendedzi ya Divhaipfi* u itela u vhala zwinzhi nga ndinganyahuvhili.

Mulayo wa ndowendowe: Vhagudi vha fanela u vha na tshifhinga tshinzhi tsha u ita ndowedzo ya zwickili na ndivho zwiswa. Musi vhagudi vha tshi wana ndowedzo tshifhinga tshothe kha zwe vha guda, vha vha na vhukoni hunzhi na u vha na fulufhelo nga maandā. Vhagudi vha difhelwa nga ndovhololo na ndowedzo. Mugudisi wa Gireidi ya T u fanela u netshedza vhagudi zwikhala zwi dovhoolaho u itela ndowedzo na u khwinisa zwickili zwiswa.

Session 3: Planning for teaching

2 hours

Term 1 Content Summary (Weeks 3–5)

(40 minutes)

Appendix A: Term 1 Weekly Content Summary (Weeks 3–5) outlines the main Content Area Focus for each week, the topics to be covered, the new knowledge and practise focus for each week, and suggested activities for whole class, teacher-guided and independent group work for the week.

Read the whole class, teacher-guided and workstation activities sections and complete Activity 8.



Activity 8

Look at Appendix A: Term 1 Weekly Content Summary (Weeks 3–5). Answer the questions.

Questions	Week 3	Week 4	Week 5
What is the Content Area Focus for the week?			
What are the key concepts that learners will be learning?			
What new knowledge is introduced?			
What skills are being practised?			

Dzulo la 3: U pulanela u funza Awara 2

Manweledzo a Magudiswa a Kotara ya 1 (Vhege ya 3–5) (Minetse ya 40)

Thumetshedzo ya A: Manweledzo a Magudiswa a Vhege nga Vhege a Kotara ya 1 (Vhege ya 3–5) i ri gavhela Sia la Magudiswa lo Sedzwaho la ndeme la vhege inwe na inwe, thero dzine dza do funzwa, ndivho ntswa na ndowedzo dzo sedzwaho dza vhege inwe na inwe, na nyito dzo dzinginywaho dza kilasi yothe, nyito dzo rangwaho phanda nga mugudisi na mushumo wa vhege wa tshigwada tsho diimisaho nga tshothe.

Kha vha vhale khethekanyo dza nyito dza kilasi yothe, dzo rangwaho phanda nga mugudisi na dza zwiitshini zwa u shumela vha fhedzise Nyito ya 8.



Nyito ya 8

Kha vha sedze kha Thumetshedzo ya A: Manweledzo a Magudiswa a Vhege nga Vhege a Kotara ya 1 (Vhege ya 3–5). Kha vha fhindule mbudziso.

Mbudziso	Vhege ya 3	Vhege ya 4	Vhege ya 5
Ndi lifhio Sia la Magudiswa lo Sedzeswaho la vhege?			
Ndi divhaipfi ifhio ya ndeme ine vhagudi vha do guda?			
Ndi ndivho ntswa ifhio ine ya khou divhadzwa?			
Ndi zwikili zwifhio zwine ha khou itwa ndowedzo ngazwo?			



Video 3

Watch the video of learners discussing a poster.

1. Make a note of the questions and maths problems that the teacher presents to the learners during the poster discussion.

2. Write down other questions that the teacher could have asked.

Refer to Weeks 3, 4 and 5 in *Activity Guide: Term 1*. Complete Activity 9 in your group.



Activity 9

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

Nyendedzi ya Nyito: Kotara ya 1: Vhege ya 3, 4 na 5

(Minetse ya 60)



Vidiyo ya 3

Kha vha ṭalele vidiyo ya vhagudi vha tshi khou haseledza nga phositara.

1. Kha vha ite notsi dza mbudziso na thaidzo dza mbalo dzine mugudisi a khou kumedzela vhana nga tshifhinga tsha khaseledzo ya phositara.

2. Kha vha ṅwale dziṅwe mbudziso dze mugudisi a vha o fanela o vhudzisa.

Kha vha sedze kha Vhege ya 3, 4 na 5 dza *Nyendedzi ya Nyito: Kotara ya 1*. Kha vha fhedzise Nyito ya 9 tshigwadani tshavho.



Nyito ya 9

1. Kha vha wane Vhege ya 3, 4 na 5 dza *Nyendedzi ya Nyito: Kotara ya 1*. Kha vha fhindule mbudziso.
 - ◆ Ndi Sia ḷa Magudiswa ḷo Sedzwaho ḷifhio ḷa vhege ṅwe na ṅwe?
 - ◆ Ndi thero na ṅdivho ntswa zwifhio zwi funzwaho vhege ṅwe na ṅwe?
 - ◆ Magudiswa a 'ṅdowedzo' a ṭumana hani na a vhege yo fhelaho?
 - ◆ Vha ṭoḷa zwifhio u itela u lugisela phanḷa ha u funza vhege ṅwe na ṅwe?
 - ◆ Kha vha vhale nyito dza kiḷasi yoṭhe na nyito dza zwigwada zwiṭuku.
 - ◆ Kha vha haseledze zwigwadani zwavho zwiṭuku uri vha ḷo pulana na u dzudzanya hani kiḷasi yavho u itela idzi vhege tharu dza u funza.
2. Kha vha sedze kha ṭhumetshedzo ya A: Manweledzo a Magudiswa a Vhege nga Vhege a Kotara ya 1 (Vhege ya 3–5). Kha vha fanyise nyito dza kiḷasi yoṭhe na dza zwigwada zwiṭuku kha Vhege ya 3, 4 na 5 dza *Nyendedzi ya Nyito: Kotara ya 1* na Manweledzo a Magudiswa a vhege ṅwe na ṅwe.



Remember that in Grade R assessment is informal and continuous. We need to observe learners throughout the day, inside and outside the classroom. The eye icon reminds us that we need to observe the learners while they are busy, and we need to listen carefully while they are talking to us and to their peers.

The Maths Programme is designed around the rotation of small groups during a week and the teacher pays special attention to one group a day, watching and listening as the learners complete specific tasks. This time gives the teacher the opportunity to carefully observe each learner and gather information on their progress.

Look at the shaded block at the end of the teacher-guided activity: '**Check that learners are able to**'. The teacher makes a mental note of each learner and once the learners have left for the day she writes down her observations in a dedicated observation book that has space for each learner's notes.

Closing activities

(20 minutes)



Activity 10

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



Vha humbule uri u linga kha Gireidi ya T a hu fomaḷa nahone ndi u linga hu yaho phanḷa. Ri fanela u sedza vhagudi ri sa imi ḍuvha ḷoṭhe, ngomu na nḍa ha kiḷasirumu. Luswayo lwa iṭo lu ri humbudza uri ri fanela u sedza vhagudi musi vhe kati, nahone ri fanela u thetshelesa nga vhuronwane musi vha tshi khou amba na riṅe na thangana ya murole yavho.

Mbekanyamushumo ya Mbalo yo dizainiwa u mona na u tshintshana ha zwigwada zwiṭuku kha vhege nahone mugudisi u sedzesa tshigwada tshithihi nga ḍuvha, a tshi lavhelesa na u thetshelesa zwenezwi vhagudi vha tshi fhedzisa mishumo yo tiwaho. Tshifhinga itshi tshi ṅea mugudisi tshikhala tsha u sedza nga vhuronwane mugudi muṅwe na muṅwe na u kuvhanganya mafhungo nga mvelaphanḷa yawe.

Kha vha lavhelese tshibuḷoko tsho swifhadzwaho magumoni a nyito yo rangwaho phanḷa nga mugudisi: '**Kha vha ṭole uri vhagudi vha a kona u**'. Mugudisi u ita notsi muhumbuloni wawe nga mugudi muṅwe na muṅwe nahone musi vhagudi vho no ṭuwa nga iḷi ḍuvha, u nḱwala zwe a vhona ngomu kha bugu yo tetshelwaho u vhona ine ya vha na tshikhala tsha notsi dza mugudi muṅwe na muṅwe.

Nyito dza u vala

(Minetse ya 20)



Nyito ya 10

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

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



Take back to school task

1. Read the *Concept Guide* pages that were referred to during this workshop.
2. Prepare a Space and Shape (Geometry) maths area. Take a photograph of it and bring it to the next workshop.
3. Use *Activity Guide: Term 1* to plan and implement Weeks 3–5 of the Maths Programme. When planning, think about how the guiding principles will inform your planning and teaching:
 - How will you find out what learners already know and understand?
(level principle)
 - How will you build on the prior knowledge that learners bring from home?
(context principle)
 - How will you ensure that the planned activities are meaningful for learners?
(context principle)
 - How will you build active listening and speaking into your planned activities?
(interaction principle)
4. Write a reflection of what worked well and what did not work so well. Bring your reflection notes and some examples of work that the learners did to the next workshop.

Evaluation

Complete the Evaluation Form.



Mushumo wa u tuwa nawo tshikoloni

1. Kha vha vhale masiatari a *Ndendedzi ya Divhaipfi* e a buliwa nga tshifhinga tsha wekishopo.
2. Kha vha dzudzanye fhethu ha mbalo ha Tshikhala na Tshivhumbeo (Dzhometiri) Kha vha dzhie tshinepe tshaho vha de natsho kha wekishopo i tevhelaho.
3. Kha vha shumise *Nyendedzi ya Nyito: Kotara ya 1* u pulana na u thoma Vhege ya 3–5 dza Mbekanyamushumo ya Mbalo. Musi vha tshi pulana, vha humbule nga uri milayo ya nyendedzi i nga thusa hani u pulana na u funza havho:
 - Vha do zwi divha hani uri vhagudi vha vho divha na u pfesesa zwifhio?
(mulayo wa maimo)
 - Vha do fhaṭa hani kha ndivhothangeli ine vhagudi vha da nayo u bva hayani?
(mulayo wa magudiswa)
 - Vha do zwi konisa hani uri nyito dze vha pulana ndi dza ndeme kha vhagudi?
(mulayo wa magudiswa)
 - Vha do fhaṭa hani u thetshesesa na u amba ha mafulufulu ngomu ha nyito dze vha pulana?
(mulayo wa mvuvhano)
4. Kha vha nwale zwine vha humbula uri zwo shuma zwavhuḍi na zwine a zwo ngo shuma zwavhuḍi. Kha vha de na idzo notsi na tsumbo dza mushumo we vhagudi vha ita kha wekishopo i tevhelaho.

U linga

Kha vha dadze Fomo ya u Linga.

APPENDIX A: TERM 1 WEEKLY CONTENT SUMMARY (WEEKS 3-5)

Term 1: Activity Plan

Week 3				
CONTENT AREA: SPACE AND SHAPE (GEOMETRY)				
TOPIC: Recognise, identify and name 3-D objects; describe, sort and compare 3-D objects (boxes and balls); position, orientation and views: in and out				
INTRODUCE NEW KNOWLEDGE: Counting objects 1–5, properties of boxes and balls, objects that roll or slide, position: in and out, big/small, biggest/smallest				
PRACTISE: Oral counting 1–5, reinforce number concept (1), sorting				
Whole class activities		Teacher-guided activity	Workstation activities	
Day 1	Explore properties of boxes and balls.	Counting one-to-one correspondence 1–5. Big and small game. Properties of boxes and balls. Compare boxes and balls. Sort objects that slide and roll.	Activity 1	Construct objects with boxes.
Day 2	Compare sizes of boxes and balls.		Activity 2	Big and small playdough balls – sorting.
Day 3	Explore which can slide, which can roll; big/biggest and small/smallest.		Activity 3	Paint prints with boxes or blocks.
Day 4	Discuss why objects roll and slide.		Activity 4	Build animal shelters for the farm animals with building blocks.
Day 5	Position: in and out.			
Week 4				
CONTENT AREA: SPACE AND SHAPE (GEOMETRY)				
TOPIC: Recognise, identify and name 2-D shapes (circle); compare 3-D objects and 2-D shapes; symmetry				
INTRODUCE NEW KNOWLEDGE: Circle, symmetry, introduce number 2				
PRACTISE: Oral counting 1–5, counting objects 1–5, number 1				
Whole class activities		Teacher-guided activity	Workstation activities	
Day 1	Introduce 2; number frieze story.	Naming the shape and colour of counters from the <i>Resource Kit</i> . Circle activity – properties. Number dot cards, pictures and symbols 1 and 2.	Activity 1	Playdough template – make 2.
Day 2	What is a shape? Introduce the circle.		Activity 2	Circle prints – paint and containers.
Day 3	Find circles in the classroom.		Activity 3	'Plate' template – cut and paste pictures of food.
Day 4	Count different body parts; explore symmetry in their own body.		Activity 4	Body puzzles.
Day 5	Circle (use poster) and symmetry in a picture.			

ṖHUMETSHEDZO YA A: MANWELEDZO A MAGUDISWA A VHEGE NGA VHEGE A KOTARA YA 1 (VHEGE YA 3-5)

Kotara ya 1: Pulane ya Nyito

Vhege ya 3				
SIA ḲA MAGUDISWA: TSHIKHALA NA TSHIVHUMBEO (DZHOMEṖIRI)				
THERO: U vhona, u topola na u bula zwithu zwa 3-D; u ṭalutshedza, u vhekanya na u vhambedza zwithu zwa 3-D (mabogisi na bola); vhuimo, u ḍivhadza na mihumbulo: ngomu na nnḍa				
KHA VHA ḍIVHADZE NḍIVHO NTSWA: U vhalela zwithu 1-5, vhunzani ha mabogisi na bola, zwithu zwine zwa kunguluwa kana u seseledza, vhuimo: ngomu na nnḍa, tshihulwane/tshituku, tshihulusesa/tshitukusesa				
NḍOWEDZO: U vhalela ha mutevhetsindo 1-5, u khwaṭhisedza ḍivhaipfi ya nomboro (1), u vhekanya				
Nyito dza kilasi yoṭhe		Nyito yo rangwaho phanda nga mugudisi	Nyito dza tshitshini tsha u shumela	
ḍuvha Ḳa 1	U tandula vhunzani ha mabogisi na bola.	U vhalela u livhanyisa tshithu nga tshithu 1-5. Mutambo wa tshihulwane na tshituku. Vhunzani ha mabogisi na bola. U vhambedza mabogisi na bola. U vhekanya zwithu zwine zwa seseledza na zwi kunguluwaho.	Nyito ya 1	U fhaṭa zwithu nga mabogisi.
ḍuvha Ḳa 2	U vhambedza saizi dza mabogisi na bola.		Nyito ya 2	Bola dza suko Ḳa u tambisa khulwane na ṭhukhu - u vhekanya.
ḍuvha Ḳa 3	U tandula zwine zwa nga seseledza, zwine zwi nga kunguluwa; zwi hulwane/zwi hulusesa na zwi ṭuku/zwi ṭukusesa.		Nyito ya 3	U pennda migandiso nga mabogisi kana zwi buḲoko.
ḍuvha Ḳa 4	Kha vha hasedze uri ndi ngani zwithu zwi tshi kunguluwa na u seseledza.		Nyito ya 4	U fhaṭa mahaya a phukha dza bulasini nga zwi buḲoko zwa u fhaṭa.
ḍuvha Ḳa 5	Vhuimo: ngomu na nnḍa.			
Vhege ya 4				
SIA ḲA MAGUDISWA: TSHIKHALA NA TSHIVHUMBEO (DZHOMEṖIRI)				
THERO: U vhona, u topola na u bula zwivhumbeo zwa 2-D (tshitendeledzi); u vhambedza zwithu zwa 3-D na zwivhumbeo zwa 2-D; ndinganyahuvhili				
KHA VHA ḍIVHADZE NḍIVHO NTSWA: Tshitendeledzi, ndinganyahuvhili, kha vha ḍivhadze nomboro 2				
NḍOWEDZO: U vhalela ha mutevhetsindo 1-5, u vhalela zwithu 1-5, nomboro 1				
Nyito dza kilasi yoṭhe		Nyito yo rangwaho phanda nga mugudisi	Nyito dza tshitshini tsha u shumela	
ḍuvha Ḳa 1	Kha vha ḍivhadze 2; tshitori tsha tshati ya luvhondoni ya mbalo.	U bula zwivhumbeo na muvhala wa zwithu zwa u vhalela ngazwo u bva kha <i>Khithi ya Zwishumiswa</i> . Nyito ya tshitendeledzi - vhunzani. Magaṭa a nomboro a tshithoma, zwifanyiso na zwi ga 1 na 2.	Nyito ya 1	Themphuleithi ya suko Ḳa u tambisa - kha vha vhumbe 2.
ḍuvha Ḳa 2	Tshivhumbeo ndi mini? Kha vha ḍivhadze tshitendeledzi.		Nyito ya 2	Migandiso ya tshitendeledzi - pennde na zwifaredzi.
ḍuvha Ḳa 3	Wanani zwitendeledzi ngomu kilasini.		Nyito ya 3	Themphuleithi ya 'Phulethi' - u gera na u nambatedza zwifanyiso zwa zwi Ḳiwa.
ḍuvha Ḳa 4	Vhalelani miraḍo ya muvhili yo fhambanaho; tandulani ndinganyahuvhili mivhilini yaṅu.		Nyito ya 4	Dziphazili dza muvhili.
ḍuvha Ḳa 5	Tshitendeledzi (kha vha shumise phositara) na ndinganyahuvhili kha tshifanyiso.			

Week 5				
CONTENT AREA: SPACE AND SHAPE (GEOMETRY)				
TOPIC: Recognise, identify and name 2-D shapes (square); compare 3-D objects and 2-D shapes (box and square); direction: forwards/backwards; position: inside/outside				
INTRODUCE NEW KNOWLEDGE: Square, directionality (forwards/backwards), position (inside/outside)				
PRACTISE: Circle, oral counting 1–5, counting objects 1–5, number concept 1 and 2				
Whole class activities		Teacher-guided activity	Workstation activities	
Day 1	Introduce the square (vocabulary).	Oral counting/matching dot, number cards 1 and 2. Touch counting Unifix blocks, build Unifix towers. Properties of a box and a square. Feely bag (boxes and balls). 2-D square activity – tracing around a box. Position (inside/outside).	Activity 1	Playdough with circle and square cookie cutter to make model. Cut out squares and paste to make a picture. Sorting square-shaped and circle-shaped objects. Puzzles (minimum six pieces).
Day 2	Properties of the square; difference between circle and square.		Activity 2	
Day 3	Word problem (<i>Poster Book</i>) – square; find squares in the class.		Activity 3	
Day 4	Directionality (forwards and backwards).		Activity 4	
Day 5	Make patterns with squares, colours.			

Vhege ya 5			
SIA LA MAGUDISWA: TSHIKHALA NA TSHIVHUMBEO (DZHOMETIRI)			
THERO: U vhona, u topola na u bula zwivhumbeo zwa 2-D (tshikwea); u vhambedza zwithu zwa 3-D na zwivhumbeo zwa 2-D (bogisi na tshikwea); sia: phanḁa/murahu; vhuimo: ngomu/nḁa			
KHA VHA DIVHADZE NḁIVHO NTSWA: Tshikwea, masia (phanḁa/murahu), vhuimo (ngomu/nḁa)			
NḁOWEDZO: Tshitendeledzi, u vhalela ha mutevhetsindo 1-5, u vhalela zwithu 1-5, ḁivhaipfi ya nomboro 1 na 2			
Nyito dza kilasi yoḁhe		Nyito yo rangwaho phanḁa nga mugudisi	Nyito dza tshititshini tsha u shumela
Duvha la 1	Kha vha ḁivhadze tshikwea (ḁivhaipfi).	U vhalela ha mutevhetsindo/u fanyisa tshithoma, magaraḁa a nomboro 1 na 2.	Nyito ya 1
Duvha la 2	Vhunzani ha tshikwea; phambano vhukati ha tshitendeledzi na tshikwea.	U vhalela nga u kwama zwiḁuloḁo zwa Yunifikisi, u fhaḁa dzithawara dza Yunifikisi.	Nyito ya 2
Duvha la 3	Thaidzo ya ipfi (<i>Bugu ya Dziphositara</i>) – tshikwea; wanani zwiḁwea ngomu kilasini.	Vhunzani ha bogisi na tshikwea. Tshisagana tsha u phuphuledza (mabogisi na bola).	Nyito ya 3
Duvha la 4	Masia (phanḁa na murahu).	Nyito ya tshikwea tsha 2-D – u oledzela u mona na bogisi.	Nyito ya 4
Duvha la 5	Itani dziphetheni nga zwiḁwea, mivhala.	Vhuimo (ngomu/ nḁa).	

Workshop 2 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 2

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 konḑelwa u zwi pfesesa?

4. Vha ḑo shumisa hani zwe vha guda ngomu kiḷasirumuni yavho ya Gireidi ya T?

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