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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 3 • Workshop 3

Bugu ya Mushumo ya Vhashelamulenzhe • Participant's Workbook

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

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

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Overview

Purpose

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

The purpose of this workshop is to assist teachers to implement the Maths Programme in their classrooms. Participants will strengthen their understanding of the CAPS Content Areas covered in Weeks 6–9 of Term 1 and practise skills in mediating maths learning.

References to the Grade R Mathematics Content Areas are taken from the *Curriculum and Assessment Policy Statement (CAPS): Grade R Mathematics (Final Draft)*, 2011, Department of Basic Education, South Africa.

Learning outcomes

- ◆ To reflect on the implementation of Term 1 Weeks 3–5
- ◆ To apply the Maths Programme principles in weekly planning
- ◆ To explore strategies to support teaching maths in Grade R
- ◆ To engage with the Maths Programme content of Term 1 Weeks 6–9 (Patterns, Functions and Algebra; Space and Shape (Geometry); Measurement; Numbers, Operations and Relationships)
- ◆ To start to understand how learners' different interests and ability levels inform learning and teaching

Workshop content

- ◆ Opening and reflection (1 hour)
 - ◆ Session 1: Patterns, Functions and Algebra (1 hour)
- TEA
- ◆ Session 2: Space and Shape (Geometry) (1 hour)
 - ◆ Session 3: Measurement (1 hour)
- LUNCH
- ◆ Session 4: Numbers, Operations and Relationships (1 hour)
 - ◆ Session 5: Planning for teaching (1 hour)

Manweledzo

Ndivho

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

Ndivho ya wekishopo iyi ndi u thusa vhagudisi u thoma Mbekanyamushumo ya Mbalo ngomu kiḁasirumuni dzavho. Vhashelamulenzhe vha ḁo khwaḁhisa u pfesesa havho Sia ḁa Magudiswa ḁa TSHIPHOKHALI ḁo kwamiwaho kha Vhege ya 6–9 dza Kotara ya 1 na u ita ndowedzo ya zwikili kha vhukonanyi ha u guda mbalo.

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

Mvelelo dza u guda

- ◆ U humbula nga u thomiwa ha Kotara ya 1 Vhege ya 3–5
- ◆ U shumisa milayo ya Mbekanyamushumo ya Mbalo kha vhupulani ha vhege nga vhege
- ◆ U tandula maano u itela u tikedza u funza mbalo kha Gireidi ya T
- ◆ U shuma na magudiswa a Mbekanyamushumo ya Mbalo a Kotara ya 1 Vhege ya 6–9 (Phetheni, Fankisheni na Aḁidzhebura; Tshikhala na Tshivhumbeo (Dzhometiri); Muelo; Nomboro, Tswayo na Vhushaka)
- ◆ U thoma u pfesesa uri madzangalelo a vhagudi o fhambanaho na ḁeveḁe dza vhukoni zwi thusa hani u guda na u funza

Magudiswa a wekishopo

- ◆ Mvulatswinga na mihumbulo (Awara 1)
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- TSHISWITULO
- ◆ Dzulo ḁa 4: Nomboro, Tswayo na Vhushaka (Awara 1)
 - ◆ Dzulo ḁa 5: U pulanela u funza (Awara 1)

Opening and reflection

1 hour

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



Activity 1

1. Discuss your progress in implementing Weeks 3–5 and the *Take back to school* task from Workshop 2.
2. Share your photograph of the Space and Shape (Geometry) focus in the maths area.
3. How did you record your observations of each learner during the teacher-guided activity?
4. Which teaching principles are you more aware of in your classroom?



Video 1

Watch the video of how the teacher uses a rhyme to practise counting and solving word problems.

Discuss how you managed this and other lessons that incorporated rhymes into counting activities.

Mvulatswinga na mihumbulo

Awara 1

Kha vha ambe nga mathomele a Mbekanyamushumo ya Mbalo kha mbekanyamushumo ya ḑuvha li̧nwe na li̧nwe yavho vha fhedzise nyito i tevhelaho tshigwadani tshavho.



Nyito ya 1

1. Kha vha haseledze mvelaphaņa yavho kha u thoma Vhege ya 3–5 na mushumo wa u *tuwa nawo tshikoloni* u bva kha Wekishopo ya 2.
2. Kha vha sumbedze tshinepe tsha fhethu ho sedzwaho ha Tshikhala na Tshivhumbeo (Dzhomeṭiri) fhethu ha mbalo.
3. Vho rekhodisa hani zwe vha vhona kha mugudi mu̧nwe na mu̧nwe nga tshifhinga tsha nyito yo rangwaho phaņa nga mugudisi?
4. Ndi milayo ya u funza ifhio ine vha i ḑivhesa ngomu ki̧lasini yavho?



Vidiyo ya 1

Kha vha ṭalele vidiyo i sumbedzaho uri mugudisi u shumisa hani tshidade u ita nḑowedzo ya u vhalela na u tandulula thaidzo dza maipfi.

Kha vha haseledze uri vho langisa hani izwi na dzi̧nwe ngudo dze dza katela zwidade kha nyito dza u vhalela.

Session 1: Patterns, Functions and Algebra

1 hour

This workshop focuses on teaching the following Maths Programme content: Term 1 Weeks 6–9. This session focuses on Term 1 Week 6: Patterns, Functions and Algebra.

Term 1 Content overview: Patterns, Functions and Algebra

Refer to the Patterns, Functions and Algebra Content Area on page 124 of the *Concept Guide*.



Activity 2

In your group, discuss:

1. What concepts are covered in Term 1?

2. What are the differences between the content and the content from CAPS?

Understanding patterns

Developing an understanding of patterns is an important part of maths. Patterns are all around us and children encounter lots of patterns in their daily lives at home and at school.

Think about your own understanding of the Content Area: Patterns, Functions and Algebra and complete Activity 3 with your group.

Dzulo la 1: Phetheni, Fankisheni na Alidzhebura

Awara 1

Wekishopo iyi yo sedzesa kha u funza magudiswa a Mbekanyamushumo ya Mbalo a tevhelaho: Kotara ya 1 Vhege ya 6–9. Dzulo ili li sedzesa kha Kotara ya 1 Vhege ya 6: Phetheni, Fankisheni na Alidzhebura.

Manweledzo a magudiswa a Kotara ya 1: Phetheni, Fankisheni na Alidzhebura

Kha vha sedze kha Sia la Magudiswa la Phetheni, Fankisheni na Alidzhebura kha siafari la 125 la Nyendedzi ya Divhaipfi.



Nyito ya 2

Tshigwadani tshavho, kha vha haseledze:

1. Ndi divhaipfi ifhio yo katelwaho kha Kotara ya 1?

2. Ndi phambano dzifhio dzi re ha magudiswa na magudiswa a bvaho kha TSHIPHOKHALI?

U pfesesa phetheni

U bveledza u pfesesa ha phetheni ndi tshipiqa tsha ndeme tsha mbalo. Phetheni dzi wanala u mona na rihe nahone vhana vha tangana na phetheni nnzhi vhutshiloni havho ha divha liiwe na liiwe hayani na tshikoloni.

Kha vha humbule nga kupfesesele kwavho kwa Sia la Magudiswa: Phetheni, Fankisheni na Alidzhebura vha fhedzise Nyito ya 3 na tshigwada tshavho.



Activity 3

In your group, discuss:

1. What kinds of patterns might Grade R learners observe in their daily lives?

2. Look at Poster 7 in the *Poster Book*.

- ◆ What patterns do you see?

- ◆ What is the pattern?

- ◆ Can you repeat the pattern? Explain.

A **pattern** describes the regular sequence of objects, pictures, movements, actions or events that are repeated in a predictable way.

A **sequence** is the particular order in which objects, pictures, movements, actions or events follow each other.

Identifying patterns

In a regular pattern, we can see how the elements in the sequence are repeated. We can also predict the order or sequence of the elements and how they will be repeated to create a pattern. In the pattern below we can see that the circle and square are repeated and we can predict what the next shape in the sequence will be.



Nyito ya 3

Tshigwadani tshavho, kha vha haseledze:

1. Ndi tshakha dzifhio dza phetheni dzine vhagudi vha Gireidi ya T vha nga dzi vhona vhutshiloni havho ha duvha liinwe na liinwe?

2. Kha vha lavhelese kha Phositara ya 7 ngomu *Buguni ya Dzipositara*.

- ◆ Vha khou vhona phetheni dzifhio?

- ◆ Ndi phetheni?

- ◆ Vha nga dovhoolola phetheni? Kha vha talutshedze.

Phetheni i talusa thevhekano yo dowealeho ya zwithu, zwifanyiso, misudzuluwo, nyito kana zwiwo zwine zwa dovhoolola nga ndila i humbuleleaho.

Thevhakano ndi u tevhekana tiwa hune zwithu, zwifanyiso, misudzuluwo, nyito na zwiwo zwa tevhelelana ngaho.

U topola phetheni

Kha phetheni yo dowealeho, ri nga kona u zwi vhona uri mirado ya sete kha thevhekano yo dovhoololwa hani. Ri nga kona u humbulela mutevhe kana thevhekano ya mirado ya sete na uri zwi do dovhoolola hani uri zwi sike phetheni. Kha phetheni i re afho fhasi, ri a kona u zwi vhona uri tshitendeledzi na tshikwea zwo dovhoololwa nahone ri nga humbulela uri ndi tshivhumbeo tshifhio kha thevhekano tshi no do tevhelela.



Activity 4



1. Which shape is first?

2. Which shape is next?

3. What shape do you think will come after the last square?

4. How would you extend the pattern?

Repeating patterns are made up of a repeated sequence of elements, e.g. shapes, colours, sounds, objects, movements.

In the next activity, the facilitator will show you a sequence of shapes. You will use the attribute blocks on your table to copy this sequence and discuss how to extend this to create a pattern.



Activity 5

1. What is the pattern?

2. What is the repeating part of the sequence?



Nyito ya 4



1. Ndi tshivhumbeo tshifhio tshi thomaho?

2. Ndi tshivhumbeo tshifhio tshi tevhelaho?

3. Ndi tshivhumbeo tshifhio tshine na humbula uri tshi do tevhela nga murahu ha tshikwea tsha u fhedzisela?

4. Ni nga ita mini u engedza phetheni iyi?

Phetheni dzi dovhoololaho dzo itwa nga thevhekano i dovhoololaho ya zwithu, sa tsumbo, zwivhumbeo, mivhala, mibvumo, zwithu, misudzuluwo.

Kha nyito i tevhelaho, mutshimbidzi u do vha sumbedza thevhekano ya zwivhumbeo. Vha do shumisa zwibuḽoko zwa zwidombedzwa zwi re tafulani yavho u kopa thevhekano iyi na u haseledza uri vha nga i engedza hani u itela u sika phetheni.



Nyito ya 5

1. Ndi phetheniḽe?

2. Ndi tshipiḽa tshifhio tshi dovhoololaho tsha thevhekano?

Introduce learners to patterns that start with only one attribute that differs, e.g. shape, and provide enough items in the sequence so that learners can work out what the pattern is (the repeating part in the sequence).

It is important for teachers to provide a range of opportunities for learners to identify, copy and create different kinds of patterns using sounds, actions, objects and pictures.



Video 2

Watch the video of the teacher setting up activities that provide opportunities for learners to create and discuss patterns.

Notice how the teacher guides the learners through questions and prompts to create a pattern. Write down the vocabulary that she and the learners using during these activities.

Refer to pages 160–173 of the *Concept Guide* to read more about teaching Patterns, Functions and Algebra in Grade R. You will also find a list of appropriate questions and vocabulary for this Content Area.

The **level principle** says that learners are at different starting points in Grade R. Each learner's prior knowledge is the starting point for what they will learn. They can use what they know already to learn new maths concepts and skills.

Kha vha ḁivhadze vhagudi phetheni dzine dza thoma nga vhunzani huthihi fhedzi hune ha fhambana, sa tsumbo, tshivhumbeo, na u ḁetshedza zwithu zwo vhalaho kha thevhekano u itela uri vhagudi vha kone u wana uri ndi phetheni ifhio (tshipiḁa tshi dovhoolaho kha thevhekano).

Ndi zwa ndeme kha vhagudisi u ḁetshedza zwikhala zwo fhabanaho uri vhagudi vha kone u topola, u kopa na u sika tshakha dza phetheni dzo fhambanaho vha tshi shumisa mibvumo, nyito, zwithu na zwifanyiso.



Vidiyo ya 2

Kha vha ḁalele vidiyo ya mugudisi a tshi khou dzudzanya nyito dzine dza ḁetshedza vhagudi zwikhala zwa u sika na u haseledza phetheni.

Kha vha dzhiele nzhele uri mugudisi u khou gaida hani vhagudi nga mbudziso na u ḁuḁuwedza u sika phetheni. Kha vha ḁwale ḁivhaipfi ine mugudisi na vhagudi vha khou shumisa nga tshifhinga tsha idzo nyito.

Kha vha sedze masiaḁari a 160–173 a *Nyendedzi ya ḁivhaipfi* u itela u vhalala zwinzhi nga u funza Phetheni, Fankisheni na Aḁidzhebura kha Gireidi ya ḁ. Vha ḁo wana hafhu na mutevhe wa mbudziso dzo teaho na ḁivhaipfi ya iḁi Sia ḁa Magudiswa.

Mulayo wa maimo uri vhagudi vha fhethu ho fhambanaho ha u thoma kha Gireidi ya ḁ. ḁdivhothangeli ya mugudi muḁwe na muḁwe ndi fhethu ha u thoma ha zwine a ḁo guda. Vha nga shumisa zwine vha vho zwi ḁivha u guda ḁivhaipfi ntswa ya mbalo na zwikili.

Session 2: Space and Shape (Geometry)

1 hour

The focus of Term 1 Week 7 is Space and Shape (Geometry). In Workshop 2, we discussed 3-dimensional objects and 2-dimensional shapes and the content of Weeks 3–5 to be implemented in the classroom.

Term 1 Content overview: Space and Shape (Geometry)



Activity 6

Refer to the Space and Shape (Geometry) Content Area on pages 126–131 of the *Concept Guide*. You will see that circles, squares and triangles are introduced in CAPS in Term 1 and rectangles are introduced in Term 4. The Maths Programme suggests that rectangles are introduced incidentally in Term 1.

1. When you taught squares did you find that learners confused squares and rectangles? Give reasons to support your answer.

2. How were rectangles introduced in Week 3 of the Maths Programme?

Identifying 2-dimensional shapes (triangles)

In Grade R learners recognise, identify and name 2-dimensional shapes: circles, squares, triangles and rectangles. The Maths Programme also suggests that learners are encouraged to describe the properties of these shapes, e.g. straight or curved lines, number of lines and corners.

Learners apply their new knowledge of shapes and reinforce this learning in the independent small group activities.

Dzulo la 2: Tshikhala na Tshivhumbeo (Dzhometiri)

Awara 1

Zwo sedzwaho kha Kotara ya 1 Vhege ya 7 ndi Tshikhala na Tshivhumbeo (Dzhometiri). Kha Wekishopo ya 2, ro haseledza nga zwithu zwa mielo miraru na zwivhumbeo zwa mielo mivhili na magudiswa a Vhege ya 3-5 ane a do thomiwa ngomu kilasini.

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



Nyito ya 6

Kha vha sedze kha Sia la Magudiswa la Tshikhala na Tshivhumbeo (Dzhometiri) kha masiatari a 126-131 a *Nyendedzi ya Divhaipfi*. Vha do zwi vhona uri zwitendeledzi, zwickwea na thofunderaru zwo divhadzwa kha TSHIPHOKHALI kha Kotara ya 1 na uri thofundeina dzo divhadzwa kha Kotara ya 4. Mbekanyamushumo ya Mbalo i dzinginya uri thofundeina dzi divhadzwa nga u sokou itea kha Kotara ya 1.

1. Musi vha tshi funza zwickwea, vho vhuya vha zwi limuwa uri vhagudi vha kanganyisa zwickwea na thofundeina? Kha vha nee mihumbulo u tikedza phindulo yavho.

2. Thofundeina dzo divhadzwa hani kha Vhege ya 3 ya Mbekanyamushumo ya Mbalo?

U topola zwivhumbeo zwa mielo mivhili (thofunderaru)

Kha Gireidi ya T vhagudi vha a vhona, vha topola na u bula zwivhumbeo zwa mielo mivhili: zwitendeledzi, zwickwea, thofunderaru na thofundeina. Mbekanyamushumo ya Mbalo i dzinginya hafhu uri vhagudi vha tutuwedzwa u talusa vhunzani ha izwi zwivhumbeo, sa tsumbo, mitalo tswititi kana yo kevaho, tshivhalo tsha mitalo na dzikhuda.

Vhagudi vha shumisa ndivho ntswa yavho ya zwivhumbeo nahone vha khwaṭhisedza u guda uhu kha nyito dza zwigwada zwiṭuku zwo diimisaho nga zwoṭhe.



Video 3

Watch the video of the teacher introducing the learners to the triangle.

Notice how the teacher encourages the learners to describe the properties of the triangle.

Activity Guide: Term 1 provides many opportunities throughout the term for teachers to use open-ended questions. The *Poster Book* is used during whole class activities and small group teacher-guided activities to encourage learners to express their own ideas and solve problems.

In Activity 7, you will discuss a poster and talk about whether the questions posed are 'open-ended' or 'closed' questions.



Activity 7

1. Look at Poster 8 and respond to the following questions.

◆ How many triangles can you see?

◆ How do you know it is a triangle?

◆ How many sides does it have?

◆ How many corners does it have?

◆ How many lines?

◆ Can you see any other triangles?

◆ What other shapes can you see?

◆ What is the same about these two shapes?

◆ What is different about these two shapes?



Vidiyo ya 3

Kha vha țalele vidiyo ya mugudisi a tshi khou ðivhadza vhagudi țhofunderaru.

Kha vha dzhiele nzhele uri mugudisi u țuțuwedza hani vhagudi u țalusa vhunzani ha țhofunderaru.

Nyendedzi ya Nyito: Kotara ya 1 i ñetshedza vhagudisi zwikhala zwinzhi kha kotara yoțhe u shumisa mbudziso dzo țandavhuwaho. *Bugu ya Dziphositar*a i shumiswa nga tshifhinga tsha nyito dza kilasi yoțhe na nyito dza zwigwada zwițuku zwo rangwaho phanđa nga mugudisi u itela u țuțuwedza vhagudi u țahisa mihumbulo yavho na u tandulula thaidzo.

Kha Nyito ya 7, vha ðo haseledza phositara na u amba nga uri mbudziso dzo vhudziswa nga ndila yo 'țandavhuwaho' kana mbudziso 'dza phindulo nthihi'.



Nyito ya 7

1. Kha vha lavhelese Phositara ya 8 vha fhindule mbudziso dzi tevhelaho.

◆ Ndi țhofunderaru nngana dzine vha khou dzi vhona?

◆ Vha zwi ðivha hani uri ndi țhofunderaru?

◆ I na masia mangana?

◆ I na khuđa nngana?

◆ I na mitalo mingana?

◆ Ni khou kona u vhona dziñwe țhofunderaru?

◆ Ndi zwifhio zwiñwe zwivhumbeo zwine vha khou vhona?

◆ Ndi zwifhio zwi fanaho nga izwi zwivhumbeo zwivhili?

◆ Ndi zwifhio zwo fhambanaho nga izwi zwivhumbeo zwivhili?

2. Which of the questions above are open-ended and which are closed questions?

The **guidance principle** encourages teachers and learners to work together to solve problems using effective questioning.

- ◆ **Closed questions** are questions that have a limited ‘yes’ or ‘no’ response. Closed questions can be helpful in finding out what learners know, like ‘Which shape is a triangle?’, ‘What colour is it?’
- ◆ **Open-ended questions** have more than one possible answer, stimulate thinking and encourage learners to express their own ideas when solving problems.

Not all learners will grasp these concepts or learn the maths language at the same time (**level principle**).

Maths vocabulary

When learners investigate, and describe shapes and objects, they use everyday language like ‘flat’, ‘smooth’ and ‘pointy’. Teachers can introduce maths vocabulary to replace everyday language, for example: straight lines, curved lines, corners, sides. We also talk about how long something is, how wide it is and refer to the height of something.

Refer to the pages 190–193 of the *Concept Guide* to read more about asking questions related to teaching and learning Space and Shape (Geometry) concepts. Also read page 192 for more about Space and Shape (Geometry) vocabulary in Grade R.

2. Ndi dzifhio dza mbudziso dzi re afho n̄tha dzine dza vha mbudziso dzo ṭandavhuwaho na dzine dza vha dza phindulo nthihi?
-
-

Mulayo wa nyendedzi u ṭuṭuwedza vhagudisi na vhagudi u shuma vhoṭhe u itela u tandulula thaidzo vha tshi shumisa mavhudzisele a khwine.

- ◆ **Mbudziso dza phindulo nthihi** ndi mbudziso dzine dza vha na phindulo ya ‘ee’ kana ‘hai’. Mbudziso dza phindulo nthihi dzi nga thusa kha u wana zwine vhagudi vha ḍivha, sa ‘Ndi tshivhumbeo tshifhio tshine tsha vha ṭhofunderaru?’ ‘I na muvhala ufhio?’
- ◆ **Mbudziso dzo ṭandavhuwaho** dzi na khonadzeo ya phindulo i fhiraho nthihi, dzi ṭuṭula u humbula na u ṭuṭuwedza vhagudi u ṭahisa mihumbulo yavho musi vha tshi tandulula thaidzo.

A si vhagudi vhoṭhe vhane vha ḍo pfesesa iyi ḍivhaipfi kana u guda luambo lwa mbalo nga tshifhinga tshithihi (**mulayo wa maimo**).

Ḍivhaipfi ya mbalo

Musi vhagudi vha tshi sengulusa, na u ṭalusa zwivhumbeo na zwithu, vha shumisa luambo lwa ḍuvha ḷiṅwe na ḷiṅwe sa ‘fulethe’, ‘tswavhelele’ na ‘ṭhodzi’. Vhagudisi vha nga ḍivhadza ḍivhaipfi ya mbalo madzuloni a luambo lwa ḍuvha ḷiṅwe na ḷiṅwe, sa tsumbo: mitalo tswititi, mitalo yo khevaho, khuḍa, masia. Ri dovha hafhu ra amba nga uri tshithu ndi tshilapfu hani, tsho ṭandavhuwa hani na u amba nga vhulapfu ha tshiṅwe tshithu.

Kha vha sedze masiatari a 190–193 a *Nyendedzi ya Ḍivhaipfi* u itela u vhala zwinzhi nga u vhudzisa mbudziso dzi re na vhushaka na u funza na u guda ḍivhaipfi ya Tshikhala na Tshivhumbeo (Dzhometiri). Kha vha vhale hafhu na siatari ḷa 193 u itela zwinzhi nga ḍivhaipfi ya Tshikhala na Tshivhumbeo (Dzhometiri) kha Gireidi ya Ṭ.

Session 3: Measurement

1 hour

The focus of Term 1 Week 8 is Measurement: time and length.

Term 1 Content overview: Measurement



Activity 8

Refer to the Measurement Content Area on pages 132–135 of the *Concept Guide*.

In your group, review:

1. What concepts are covered in Term 1?

2. What are the differences between this content and the content from CAPS?

What is measurement?

In Activity 9 we will discuss the question ‘What is measurement?’.



Activity 9

Look at the picture below and answer the question.



Who is the biggest?

Dzulo la 3: Muelo

Awara 1

Kha Kotara ya 1 Vhege ya 8 ho sedzeswa kha Muelo: tshifhinga na vhulapfu.

Manweledzo a magudiswa a Kotara ya 1: Muelo



Nyito ya 8

Kha vha sedze Sia la Magudiswa la Muelo li re kha masiatari a 132–135 a *Nyendedzi ya Divhaipfi*. Tshigwadani tshavho, kha vha sedzuluse:

1. Ndi divhaipfi ifhio yo katelwaho kha Kotara ya 1?

2. Ndi phambano dzifhio dzi re vhukati ha magudiswa na magudiswa a bvaho kha TSHIPHOKHALI?

Muelo ndi mini?

Kha Nyito ya 9 ri do haseledza mbudziso 'Muelo ndi mini?'



Nyito ya 9

Kha vha lavhelese tshifanyiso tshi re afho fhasi vha fhindule mbudziso.



Ndi nnyi muhulwanesa?

Measurement is about finding ‘how much’ there is of a thing, e.g.:

- ◆ the length of something
- ◆ how much something holds
- ◆ the mass of something
- ◆ how long it takes to do something.

In order to measure, we need to decide on which attribute (feature/characteristic) we want to measure, e.g. length, mass, time. We use the following words to describe the measurements: taller, heavier, older.

We need to use units to measure. These can be non-standard units or standard units.

- ◆ **Non-standard measuring units** include hands, feet, crayons, pieces of string, sticks and blocks.
- ◆ **Standard measuring units** include litres, millilitres, kilograms, grams, metres, hours, minutes, etc.

In Grade R learners measure **informally** and use **non-standard measuring units** to measure time, length, mass, capacity and volume.

Direct comparison

Measurement in Grade R includes comparing the attribute of something ‘directly’ with something else. For example, measuring the length of a crayon against another crayon or comparing the height of two learners standing back-to-back.

Observe the facilitator measuring a group of participants and then complete Activity 10 in your group.



Activity 10

Refer to pages 194–207 of the *Concept Guide* to read more about Measurement and pages 136–149 of *Activity Guide: Term 1* before you answer the questions below.

Muelo ndi u wana uri 'ndi zwingana' zwi re hone zwa tshithu, sa tsumbo:

- ◆ vhulapfu ha tshiñwe tshithu
- ◆ tshiñwe tshithu tshi faredza zwingafhani
- ◆ tshileme tsha tshiñwe tshithu
- ◆ zwi dzhia tshifhinga tshingafhani u ita tshiñwe tshithu.

U itela u ela, ri fanela u dzhia tsheo ya uri ndi tshidodombedzwa tshifhio (mbonalo/tshiṭaluli) tshine ra khou ṭoḍa u ela, sa tsumbo, vhulapfu, tshileme, tshifhinga. Ri shumisa maipfi a tevhelaho u ṭalusa mielo: mulapfusa, u lemelesa, muhulwanesa.

Ri fanela u shumisa yunitsi dza u ela. Izwi zwi nga vha yunitsi dza u ela dzi si dza tshitandadi kana yunitsi dza u ela dza tshitandadi.

- ◆ **Zwa u ela zwi si zwa tshitandadi** zwi katela zwanḍa, nayo, dzikhirayoni, zwipiḍa zwa miḍali, zwitanda na zwibuḷoko.
- ◆ **Zwa u ela zwa tshitandadi** zwi katela dzilithara, miḷilithara, dzikhiḷogireme, dzigireme, mimithara, awara, minetse, ngauralongauralo.

Kha Gireidi ya Ṭ vhagudi vha ela **lu si fomaḷa** na u shumisa yunitsi **dza u ela dzi si dza tshitandadi** u ela tshifhinga, vhulapfu, tshileme, vhungomu na voḷumu.

Mbambedzo yo livhaho

Muelo kha Gireidi ya Ṭ u katela u vhambedza zwidodombedzwa 'zwo livhaho' zwa tshiñwe tshithu na tshiñwe. Sa tsumbo, u ela vhulapfu ha khirayoni na inwe khirayoni kana u vhambedza vhulapfu ha vhagudi vhavhili vho ima vho furalelana.

Kha vha lavhelese mutshimbidzi a tshi ela tshigwada tsha vhashelamulenzhe vha kone u fhedzisa Nyito ya 10 tshigwadani tshavho.



Nyito ya 10

Kha vha sedze masiaṭari a 194–207 a *Nyendedzi ya Nyito* u itela u vhalala zwinzhi nga Muelo na masiaṭari a 136–149 a *Nyendedzi ya Nyito: Kotara ya 1* phanḍa ha musi vha tshi fhindula mbudziso dzi re afho fhasi.

1. What non-standard unit of measurement was used to measure the height of the participants?

2. What other non-standard units of measurement could be used to measure the height of the participants?

Time

Time is a difficult abstract concept for learners to understand. Learners need to understand how time passes in their own lives, so teachers need to relate time to the learner's daily experiences and events that are familiar to them.



Activity 11

Refer back to Term 1 Week 8 in *Activity Guide: Term 1* and with a partner discuss how time is taught in these lessons. Share your ideas about the following.

1. How can Grade R teachers/practitioners help learners understand more about the concepts of:
 - ◆ day and night?
 - ◆ yesterday, today and tomorrow?
 - ◆ how long things take?
 - ◆ the sequence of time?

2. How can you use your daily programme activities to teach learners about the concept of time?

1. Ndi yuniti ya u ela i si ya tshitandadi ifhio yo shumiswaho u ela vhulapfu ha vhashelamulenzhe?

2. Ndi yunitsi dziñwe dzifhio dza u ela dzi si dza tshitandadi dzine dzi nga shumiswa u ela vhulapfu ha vhashelamulenzhe?

Tshifhinga

Tshifhinga ndi ðivhaipfi ya u humbulela kha vhagudi uri vha pfesese. Vhagudi vha fanela u pfesesa uri tshifhinga tshi tshimbila hani kha vhutshilo havho, zwenezwo vhagudisi vha fanela u ðalutshedza tshifhinga kha tshenzhemo ya vhagudi ya ðuvha ðinwe na ðinwe na zwiwo zwine vha zwi ðivha.



Nyito ya 11

Kha vha sedze murahu kha Kotara ya 1 Vhege ya 8 kha *Nyendedzi ya Nyito: Kotara ya 1* na uri vha na mufarakani vha haseledze uri tshifhinga tshi funzwa hani kha idzi ngudo. Kha vha kovhane mihumbulo yavho nga zwi tevhelaho.

1. Vhagudisi vha Gireidi ya T vha nga thusa hani vhagudi u pfesesa zwinzhi nga ðivhaipfi dza:
 - ◆ masiari na vhusiku?
 - ◆ mulovha, ñamusi na matshelo?
 - ◆ uri zwithu zwi dzhia tshifhinga tshingafhani?
 - ◆ u tevhkana ha tshifhinga?

2. Vha nga shumisa hani nyito dza mbekanyamushumo ya ðuvha ðinwe na ðinwe yavho u funza vhagudi nga ðivhaipfi ya tshifhinga?

3. What vocabulary is important to understand the concept of time?

Refer to pages 194–207 of the *Concept Guide* to read more about Measurement and time. Refer to the page 210 of the *Concept Guide* to read more about asking questions related to teaching and learning of Measurement in Grade R.

3. Ndi divhaipfi ifhio ya ndeme ya u pfesesa divhaipfi ya tshifhinga?

Kha vha sedze masiatari a 194–207 a *Nyendedzi ya Divhaipfi* u itela u vhala zwinzhi nga Muelo na tshifhinga. Kha vha sedze siatari la 211 la *Nyendedzi ya Divhaipfi* u itela u vhala zwinzhi nga u vhudzisa mbudziso dzi re na vhushaka na u funza na u guda Muelo kha Gireidi ya T.

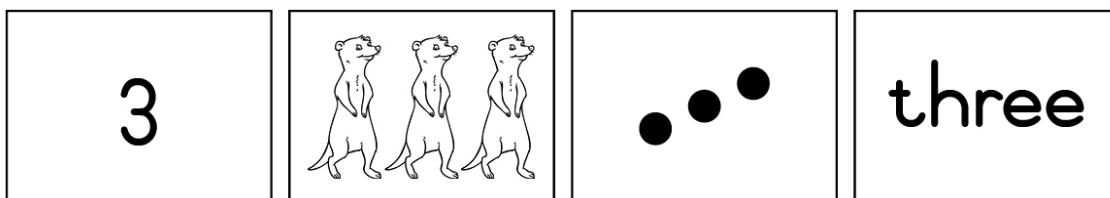
Session 4: Numbers, Operations and Relationships

1 hour

In Workshop 2, you were introduced to the concepts of counting and representation of number. In this workshop we will see how the same ideas continue into Week 6 as the number 3 is introduced. The same routine is followed as with numbers 1 and 2, namely:

Tell the *Number 3 story* and dramatise as you build up the story with the different representations of the number using frieze cards from the *Resource Kit*:

- ◆ animal (picture)
- ◆ number symbol
- ◆ number word
- ◆ dots (representing the doorbells).



Look for objects and match the number symbol (3) and number word (three). In Week 6, learners are introduced to dot cards (from the *Resource Kit*). Learners match counters to the dot cards and discuss that 3 is made up of 1 and 2 dots.

Term 1 Content overview: Numbers, Operations and Relationships

Week 7 focuses on Space and Shape (Geometry) while Week 8 focuses on Measurement. The focus of Week 9 in Term 1 is once more on number concepts. In this session, you will investigate the relationship between numbers.



Activity 12

Refer to the Numbers, Operations and Relationships content overview on pages 114–123 of the *Concept Guide*. In your group, discuss the following features of the content overview:

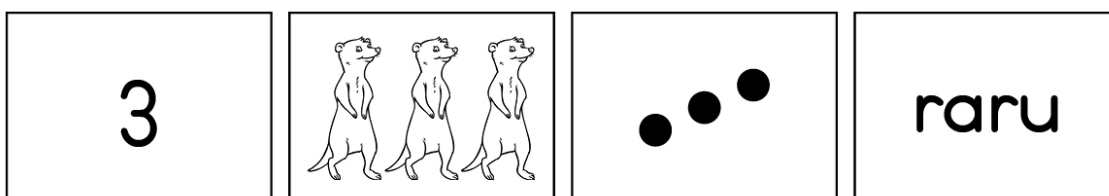
1. What is Topic 1.4?
2. What sub-topics are listed under this topic?
3. What are the differences between the blue and black text? Explain why you think this is so.

Dzulo la 4: Nomboro, Tswayo na Vhushaka Awara 1

Kha Wekishopo ya 2, vho divhadzwa divhaipfi ya u vhalela na ya u imela nomboro. Kha ino wekishopo ri do vhona uri mihumbulo yeneila i fanaho i bvela hani phanda kha Vhege ya 6 zwenezwi nomboro 3 i tshi khou divhadzwa. Ndowelo yeneyo nthihi i a tevhelwa sa kha nomboro 1 na 2, ine ya vha:

Kha vha anetshele *Tshitori tsha nomboro ya 3* vha ite sa litambwa zwenezwi vha tshi khou fhaa tshitori nga u imela ho fhambanaho ha nomboro vha tshi shumisa magaraa a tshati ya luvhondoni ya nomboro u bva kha *Khithi ya Zwishumiswa*:

- ◆ phukha (tshifanyiso)
- ◆ tshiga tsha nomboro
- ◆ ipfinomboro
- ◆ zwithoma (zwo imelaho bele dza munangoni).



Kha vha lavhelese zwithu vha fanyise zwiga zwa nomboro (3) na ipfinomboro (raru). Kha Vhege ya 6, vhagudi vha divhadzwa magaraa a tshithoma (u bva kha *Khithi ya Zwishumiswa*). Vhagudi vha fanyisa zwithu zwa u vhalela ngazwo na magaraa a tshithoma vha haseledza uri 3 yo vhumbwa nga zwithoma 1 na 2.

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

Vhege ya 7 yo sedzesa kha Tshikhala na Tshivhumbeo (Dzhometiri) ngeno Vhege ya 8 yo sedza kha Muelo. Zwo sedzwaho nga Vhege ya 9 kha Kotara ya 1 hu kha di vha divhaipfi ya nomboro. Kha ili dzulo, vha do sengulusa vhushaka vhukati ha nomboro.



Nyito ya 12

Kha vha sedze kha manweledzo a magudiswa a Nomboro, Tswayo na Vhushaka kha masiatari a 114–123 a *Nyendedzi ya Divhaipfi*. Tshigwadani tshavho, kha vha haseledze mbonalo dzi tevhelaho dza manweledzo a magudiswa:

1. Thero ndi mini 1.4?
2. Ndi therwana dzifhio dzo newaho fhasi ha iyi thero?
3. Ndi phambano ifhio i re vhukati ha linwalo la lutombo na litswu? Kha vha talutshedze uri ndi ngani vha tshi humbula uri zwo ralo.

Calculating

In Grade R learners do not do number operations like addition and subtraction, multiplication and division. These concepts are gradually built up through investigation and through problem solving. For example: *I have three apples. I eat one. How many apples do I have left?*

Learners need to understand the relationship between numbers. Activities that involve breaking down and building up numbers help learners to understand the relationships between numbers and the value of numbers. For example: *5 is made up of 2 and 3, 1 and 4.*

Demonstration

Watch the demonstration of a 'shake-and-break' game and then discuss your observations in your group.



Activity 13

Discuss the demonstration you have just watched.

1. What number concepts could the learners learn by playing this game?

2. What questions did the facilitator use that highlighted addition and subtraction?

Not all learners will demonstrate an understanding of these number concepts at the same time (**level principle**).

U rekanya

Kha Gireidi ya T̄ vhagudi a vha iti mashumele a nomboro u fana na u t̄anganya na u t̄usa, u andisa na u kovha. Divhaipfi iyi i fhaṭiwa nga zwiṭuku nga u sengulusa na nga u tandulula thaidzo. Sa tsumbo: *Ndi na maapula mararu. Nda la lithihi. Ndo sala na maapula mangana?*

Vhagudi vha fanele u pfesesa vhushaka vhukati ha nomboro. Nyito dzine dza katela u kwasha na u fhaṭa nomboro dzi thusa vhagudi u pfesesa vhushaka vhukati ha nomboro na ndeme ya nomboro. Sa tsumbo: *5 yo vhumbe nga 2 na 3, 1 na 4.*

Musumbedzo

Kha vha t̄alele musumbedzo wa mutambo wa u dzinginya na u kwasha vha koneha u haseledza zve vha vhona tshigwadani tshavho.



Nyito ya 13

Kha vha haseledze nga musumbedzo une vha kha ḍi bva u u t̄alela.

1. Ndi divhaipfi ya nomboro ifhio ine vhagudi vha nga guda nga u tamba mutambo uyu?

2. Ndi mbudziso dzifhio dze mutshimbidzi a dzi shumisa dze dza sumbedza u t̄anganya na u t̄usa?

A si vhagudi vhoṭhe vhane vha ḍo sumbedza u pfesesa divhaipfi ya nomboro iyi nga tshifhinga tshithihi (**mulayo wa maimo**).

Session 5: Planning for teaching

1 hour

Term 1 Content Summary (Weeks 6–9)

Appendix A: Term 1 Weekly Content Summary (Weeks 6–9) outlines the main Content Area Focus for each week, the topics to be covered, the new knowledge and practise focus for each week, and suggested activities for whole class, teacher-guided and independent group work for the week.



Activity 14

Look at Appendix A: Term 1 Weekly Content Summary (Weeks 6–9). Answer the questions.

Questions	Week 6	Week 7	Week 8	Week 9
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 5: U pulanela u funza

Awara 1

Manweledze a Magudiswa a Kotara ya 1 (Vhege ya 6–9)

Thumetshedzo ya A: Manweledzo a Magudiswa a Vhege nga Vhege a Kotara ya 1 (Vhege ya 6–9) a ri gavhela Sia la Magudiswa lo Sedzwaho la ndeme la vhege inwe na inwe, thero dzine dza do kwamiwa, ndivho ntswa na ndowedzo yo sedzwaho ya vhege inwe na inwe, na nyito dzo dzinginywaho dza kilasi yothe, dzo rangwaho phanda nga mugudisi na mushumo wa zwigwada zwo diimisaho nga zwothe wa vhege.



Nyito ya 14

Kha vha sedze kha Thumetshedzo ya A: Manweledzo a Magudiswa a Vhege nga Vhege a Kotara ya 1 (Vhege ya 6–9). Kha vha fhindule mbudziso.

Mbudziso	Vhege ya 6	Vhege ya 7	Vhege ya 8	Vhege ya 9
Ndi Sia lifhio 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 ndowendowe ngazwo?				

Activity Guide: Term 1: Weeks 6, 7, 8 and 9

Refer to Weeks 6, 7, 8 and 9 in *Activity Guide: Term 1*. Complete Activity 15 in your group.



Activity 15

Find Weeks 6, 7, 8 and 9 in *Activity Guide: Term 1*. Answer the questions.

1. What is the Content Area Focus for each week?
2. What topics and new knowledge are taught in each week?
3. How does the 'Practise' content link to the previous week?
4. What do you need to get ready before teaching each week?
5. Read the whole class activities and small group activities.
6. Discuss in your small group how you will plan and organise your class for these four weeks of teaching.



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.

Nyendedzi ya Nyito: Kotara ya 1: Vhege ya 6, 7, 8 na 9

Kha vha sedze kha Vhege ya 6, 7, 8 na 9 ngomu ha *Nyendedzi ya Nyito: Kotara ya 1*. Kha vha fhedzise Nyito ya 15 tshigwadani tshavho.



Nyito ya 15

Kha vha wane Vhege ya 6, 7, 8 na 9 dza *Nyendedzi ya Nyito: Kotara ya 1*. Kha vha fhindle mbudziso.

1. Ndi Sia la Magudiswa lo Sedzwaho lifhio la vhege inwe na inwe?
2. Ndi thero dzifhio na ndivho ntswa zwi funzwaho vhege inwe na inwe?
3. Magudiswa a 'Ndowedzo' a tumana hani na a vhege yo fheleho?
4. Vha toda zwifhio u itela u lugisela phanda ha u funza vhege inwe na inwe?
5. Kha vha vhale nyito dza kilasi yotho na nyito dza zwigwada zwiṭuku.
6. Kha vha haseledze zwigwadani zwavho zwiṭuku uri vha do pulana na u dzudzanya hani kilasi yavho u itela idzi vhege nna dza u funza.



Vha humbule uri kha Gireidi ya T u linga a hu foma la nahone ndi u linga hu yaho phanda. Ri fanela u sedza vhagudi ri sa imi duvha lothe, ngomu na nnda ha kilasirumu. Luswayo lwa ito lu ri humbudza uri ri fanela u sedza vhagudi musi vhe kati, nahone ri fanela u thetshesela nga vhuronwane musi vha tshi khou amba na riṅe na musi vha tshi amba na thangana dza murole dzavho.

Mbekanyamushumo ya Mbalo yo dizainiwa u mona na u tshintshana ha zwigwada zwiṭuku vhukati ha vhege nahone mugudisi u sedzesa tshigwada tshithihi nga duvha, a tshi talela na u thetshesela zwenezwi vhagudi vha tshi fhedzisa mishumo yo tiwaho. Tshifhinga itshi tshi nea mugudisi tshikhala tsha u sedza nga vhuronwane mugudi muṅwe na muṅwe na u kuvhanganya mafhungo nga mvelaphanda yavho.

Kha vha lavhelese tshibuḷoko tsho swifhadzwaho magumoni a nyito yo rangwaho phanda nga mugudisi: **'Kha vha tole uri vhagudi vha a kona u'**. Mugudisi u ita notsi muhumbuloni wawe nga mugudi muṅwe na muṅwe nahone musi vhagudi vho no tuwa nga ili duvha, u nṱwala zwe a vhona ngomu kha bugu yo tetshelwaho u vhona ine ya vha na tshikhala tsha notsi dza mugudi muṅwe na muṅwe.

Closing activities



Activity 16

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

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



Take back to school task

1. Read the *Concept Guide* pages that were referred to during this workshop.
2. Use *Activity Guide: Term 1* to plan and implement Weeks 6–9 of the Maths Programme, including creating a maths area with a focus on the concept for each week.
3. Write an evaluation of what worked well and what did not work so well. Bring your plan and evaluation to the next workshop.
4. Bring examples or photographs of work that learners did.

Evaluation

Complete the Evaluation Form.

U vala nyito



Nyito ya 16

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

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



Mushumo wa u ṽuwa nawo tshikoloni

1. Kha vha vhale masiaṽari a *Nyendedzi ya Divhaipfi* e a buliwa nga tshifhinga tsha wekishopo.
2. Kha vha shumise *Nyendedzi ya Nyito: Kotara ya 1* u pulana na u thoma Vhege ya 6–9 dza Mbekanyamushumo ya Mbalo, hu tshi katelwa u sika fhethu ha mbalo ho sedzeswa kha divhaipfi ya vhege inwe na inwe.
3. Kha vha inwale muhumbulo wa u linga zwe zwa shuma zwavhuḽi na zwe zwa si shume zwavhuḽi. Kha vha ḽe na pulane na muhumbulo wa u linga zwavho kha wekishopo i tevhekaho.
4. Kha vha ḽise tsumbo kana zwinepe zwa mushumo we vhagudi vha ita.

U linga

Kha vha ḽadze Fomo ya u Linga.

APPENDIX A: TERM 1 WEEKLY CONTENT SUMMARY (WEEKS 6-9)

Term 1: Activity Plan

Week 6				
CONTENT AREA: PATTERNS, FUNCTIONS and ALGEBRA				
TOPIC: Geometric patterns				
INTRODUCE NEW KNOWLEDGE: Identify patterns, copy patterns, complete patterns, introduce number 3, sequencing numbers 1-3. Making groups the same.				
PRACTISE: Oral counting 1-5, counting objects 1-5, number concept 1 and 2, circle, square, big and small, forwards and backwards				
Whole class activities		Teacher-guided activity	Workstation activities	
Day 1	Introduce number 3 number frieze story.	Play a movement game using symbols 1 and 2. Match and order dot picture/number cards 1-3. Simple pattern using counters. Discuss the pattern, use counters to copy the pattern. Problem solving 1-3. Making groups the same.	Activity 1	Frame a picture using pattern and draw three objects.
Day 2	Uses different sized and coloured circles to make simple patterns. Discuss patterns (repetition, differences, similarities).		Activity 2	Fingerprint counting.
Day 3	Body percussion patterns and problem solving.		Activity 3	Pattern cards using counters and sticks.
Day 4	Using big and small circles and objects to make simple patterns. Identify patterns in classroom.		Activity 4	Template with playdough – make 3.
Day 5	Problem solving 1-3. Making groups the same.			
Week 7				
CONTENT AREA: SPACE and SHAPE (GEOMETRY)				
TOPIC: Recognise, identify and name 2-D shapes: triangle; describe and compare 3-D objects and 2-D shapes: triangles; sort 2-D shapes; figure ground; symmetry				
INTRODUCE NEW KNOWLEDGE: Triangle; figure ground; position (in front and behind); oral counting 1-10				
PRACTISE: Oral counting 1-10, sequencing number 1-3, counting objects 1-5, reinforce number concept 1-3, what number before/after, circle, square, symmetry, big and small				
Whole class activities		Teacher-guided activity	Workstation activities	
Day 1	Introduce triangle and its properties.	Oral counting. Touch and count using number towers 1-3 (Unifix blocks). One-to-one correspondence. Properties of a triangle (2-D). Sort and compare 3-D objects and 2-D shapes into two groups, one of triangles and one not triangles.	Activity 1	Triangle activity – cut and decorate four triangles.
Day 2	Identify triangle shapes in <i>Poster Book</i> , problem solving.		Activity 2	Butterfly prints – symmetry.
Day 3	In front of and behind; midline crossing.		Activity 3	Shape person – use pre-cut shapes.
Day 4	Compare biggest and smallest. Bigger and smaller.		Activity 4	Shape puzzles – (minimum six pieces).
Day 5	Symmetry.			

THUMETSHEDZO YA A: MANWELEDZO A MAGUDISWA A VHEGE NGA VHEGE A KOTARA YA 1 (VHEGE YA 6-9)

Kotara ya 1: Pulane ya Nyito

Vhege ya 6				
SIA LA MAGUDISWA: PHETHENI, FANKISHENI NA ALIDZHEBURA				
THERO: Phetheni dza dzhometiri				
KHA VHA DIVHADZE NDIVHO NTSWA: U topola phetheni, u kopa phetheni, u fhedzisa phetheni, u divhadza nomboro ya 3, u tevhékanya nomboro 1-3. U ita uri zwigwada zwi fane.				
NDOWEDZO: U vhalela ha mutevhetsindo 1-5, u vhalela zwithu 1-5, divhaipfi ya nomboro 1 na 2, tshitendeledzi, tshikwea, khulu na thukhu, u ya phanda na u ya murahu				
Nyito dza kelasu yothe		Nyito yo rangwaho phanda nga mugudisi		Nyito dza tshithshini tsha u shumela
Duvha la 1	Kha vha divhadze tshitori tsha tshati ya luvhondoni ya ya mbalo ya nomboro ya 3.	Kha vha tambe mutambo wa musudzuluwo vha tshi shumisa zwi ga 1 na 2.		Nyito ya 1
Duvha la 2	U shumisa saizi dzo fhambanaho na zwitendeledzi zwa mivhala u ita phetheni dzi sa konqi. Kha vha haseledze phetheni (ndovhololo, u fhambana, u fana).	Kha vha fanyise na u tevhékanya tshifanyiso tsha tshithoma/magaraa a nomboro 1-3.		Nyito ya 2
Duvha la 3	Phetheni dza musudzuluwo wa muvhili na u tandulula thaidzo.	Kha vha ite phetheni dzi sa konqi vha tshi shumisa zwithu zwa u vhalela ngazwo. Kha vha haseledze nga phetheni, kha vha shumise zwithu zwa u vhalela ngazwo u kopa phetheni.		Nyito ya 3
Duvha la 4	U shumisa zwitendeledzi na zwithu zwi hulwane na zwi tuku u vumba phetheni dzi sa konqi. U topola phetheni ngomu kelasini.	Kha vha tandulule thaidzo 1-3. U ita zwigwada uri zwi fane.		Nyito ya 4
Duvha la 5	U tandulula thaidzo 1-3. U ita zwigwada uri zwi fane.			
Vhege ya 7				
SIA LA MAGUDISWA: TSHIKHALA NA TSHIVHUMBEO (DZHOMETIRI)				
THERO: U vhona, u topola na u bula zwi vhumbeo zwa 2-D: thofunderaru; u talusa na u vhambedza zwithu zwa 3-D na zwi vhumbeo zwa 2-D: thofunderaru; u vhekanya zwi vhumbeo zwa 2-D; u nanguludza vhukati ha zwi nwe; ndinganyahuvhili				
U DIVHADZA NDIVHO NTSWA: Thofunderaru; u nanguludza vhukati ha zwi nwe; vhuimo (phanda ha na murahu ha); u vhalela ha mutevhetsindo 1-10				
NDOWEDZO: U vhalela ha mutevhetsindo 1-10, u tevhékanya nomboro 1-3, u vhalela zwithu 1-5, u khwahtisedza divhaipfi ya nomboro 1-3, ndi nomboro ifhio i daho phanda ha/murahu ha, tshitendeledzi, tshikwea, ndinganyahuvhili, khulu na thukhu				
Nyito dza kelasu yothe		Nyito yo rangwaho phanda nga mugudisi		Nyito dza tshithshini tsha u shumela
Duvha la 1	U divhadza thofunderaru na vhezani hayo.	U vhalela ha mutevhetsindo.		Nyito ya 1
Duvha la 2	U topola zwi vhumbeo zwa thofunderaru kha <i>Bugu ya Dzipositara</i> , u tandulula thaidzo.	U kwama na u vhalela vha tshi shumisa dzithawara dza nomboro 1-3 (zwi buko zwa Yunifikisi).		Nyito ya 2
Duvha la 3	Phanda ha na murahu; u pfuka mutalo wa vhukati.	U livhanyisa tshithu nga tshithu.		Nyito ya 3
Duvha la 4	U vhambedza tshihulusesa na tshithukusesa. Tshihulwanesa na tshithukusa	Vhezani ha thofunderaru (2-D).		Nyito ya 4
Duvha la 5	Ndinganyahuvhili.	U vhekanya na u vhambedza zwithu zwa 3-D na zwi vhumbeo zwa 2-D nga zwigwada zwi vhili, tshithihi tsha thofunderaru na tshithihi tshi si thofunderaru.		

Week 8				
CONTENT AREA: MEASUREMENT				
TOPIC: Time: day and night; Length: compare and order objects to describe height				
INTRODUCE NEW KNOWLEDGE: Sequencing day and night, light and dark; height chart; position (on, under, on top, below, next to, between); counting backwards 5-1				
PRACTISE: Oral counting 1-10, counting backwards from 5, sequencing numbers 1-3, counting objects 1-5, reinforce number concept 1-3, patterns				
Whole class activities		Teacher-guided activity	Workstation activities	
Day 1	Day and night; light and dark.	Routine introduction.	Activity 1	Day and night activity – cutting out pictures.
Day 2	Introduce height chart; position vocabulary.	Day and night; dark and light activities:	Activity 2	Draw from shortest to tallest.
Day 3	Height chart. Sorting day and night everyday objects.	- blanket - activity cards.	Activity 3	Paste shapes from biggest to smallest.
Day 4	Poster – Day and night. Positional vocabulary: on, under, below and on top.	Day and night story and sequencing. Position (on, under, below, on top, next to, between).	Activity 4	Day/night matching cards.
Day 5	Compare heights. Movement-positions.	Pattern (animals). Height chart.		
Week 9				
CONTENT AREA: NUMBERS, OPERATIONS and RELATIONSHIPS				
TOPIC: Describe, order and compare numbers; estimation; problem-solving techniques; using numbers in familiar contexts; position				
INTRODUCE NEW KNOWLEDGE: Estimation, numbers in familiar contexts, one more, one less, position (up/down)				
PRACTISE: Oral counting 1-10, counting backwards from 5, sequencing numbers 1-3, counting objects 1-5, number concept 1-3, problem-solving techniques. Circle, square and triangle.				
Whole class activities		Teacher-guided activity	Workstation activities	
Day 1	Describe and order numbers 1-3.	Oral counting.	Activity 1	Playdough making 1-3 objects.
Day 2	Matching number representations 1-3. Estimation.	One-to-one correspondence. Describe and order numbers 1-3.	Activity 2	Draw pictures 1-3 in shapes.
Day 3	Counting – one more/one less. Position: up and down.	Estimation. Shake and break.	Activity 3	Pasting. Picture with three stars, two trees, one moon.
Day 4	Problem solving (more/less). Poster 1.		Activity 4	Puzzles (minimum six piece).
Day 5	Using number in familiar context: How old are you?			

Vhege ya 8			
SIA LA MAGUDISWA: MUELO			
THERO: Tshifhinga: masiari na vhusiku; Vhulapfu: u vhambedza na u tevhekanya zwithu u itela u talusa vhulapfu			
U DIVHADZA NDIVHO NTSWA: U tevhekanya masiari na vhusiku, tshedza na swiswi; tshati ya vhulapfu; vhuimo (kha, fhasi, ntha ha, fhasi ha, tsini na, vhukati); u vhalela u ya murahu 5-1			
NDOWEDZO: U vhalela ha mutevhetsindo 1-10, u vhalela u ya murahu u bva kha 5, u tevhekanya nomboro 1-3, u vhalela zwithu 1-5, u khwaṭhisedza divhaipfi ya nomboro 1-3, phetheni			
Nyito dza kilasi yothe		Nyito yo rangwaho phanda nga mugudisi	Nyito dza tshitiṭshini tsha u shumela
Duvha la 1	Masiari na vhusiku, tshedza na swiswi.	U divhadza ndowelo. Vhusiku na masiari; nyito dza swiswini na dza tshedzani: - nguvho - magaraṭa a nyito. Tshitori tsha masiari na vhusiku na u tevhekanya. Vhuimo (kha, fhasi, fhasi ha, ntha ha, tsini na, vhukati). Phetheni (phukha). Tshati ya vhulapfu.	Nyito ya 1 Nyito ya 2 Nyito ya 3 Nyito ya 4
Duvha la 2	U divhadza tshati ya vhulapfu; vhuimo divhaipfi.		
Duvha la 3	Tshati ya vhulapfu. U vhekanya zwithu zwa duvha linwe na linwe zwa masiari na vhusiku.		
Duvha la 4	Phositara – Masiari na vhusiku. Divhaipfi ya vhuimo: kha, fhasi, fhasi ha na ntha ha.		
Duvha la 5	U vhambedza vhulapfu. Musudzuluwo-vhuimo.		
Vhege ya 9			
SIA LA MAGUDISWA: NOMBORO, TSWAYO NA VHUSHAKA			
THERO: U talusa, u tevhekanya na u vhambedza nomboro; nyanganyelo; thekiniki dza u tandulula thaidzo; u shumisa nomboro kha nyimele dzo dowealeho; vhuimo			
U DIVHADZA NDIVHO NTSWA: Nyanganyelo, nomboro kha nyimele dzo dowealeho, zwinzhi nga tshithihi, zwiṭuku nga tshithihi, vhuimo (ntha/fhasi).			
NDOWEDZO: U vhalela ha mutevhetsindo 1-10, u vhalela u ya murahu u bva kha 5, u tevhekanya nomboro 1-3, u vhalela zwithu 1-5, divhaipfi ya nomboro 1-3, thekiniki dza u tandulula thaidzo. Tshitendeledi, tshikwea na thofunderaru.			
Nyito dza kilasi yothe		Nyito yo rangwaho phanda nga mugudisi	Nyito dza tshitiṭshini tsha u shumela
Duvha la 1	U talusa na u tevhekanya nomboro 1-3.	U vhalela ha mutevhetsindo. U livhanyisa tshithu nga tshithu. U talusa na u tevhekanya nomboro 1-3. Nyanganyelo. U dzinginya na u kwasha.	Nyito ya 1 Nyito ya 2 Nyito ya 3 Nyito ya 4
Duvha la 2	U fanyisa u imela nomboro 1-3. Nyanganyelo.		
Duvha la 3	U vhalela –zwinzhi nga tshithihi/ zwiṭuku nga tshithihi. Vhuimo: ntha na fhasi.		
Duvha la 4	U tandulula thaidzo (zwinzhi/zwiṭuku). Phositara ya 1.		
Duvha la 5	U shumisa nomboro kha nyimele dzo dowealeho: Ni na minwaha mingana?		

Workshop 3 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 3

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 konḡelwa u zwi pfesesa?

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

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