



**GAUTENG PROVINCE**  
EDUCATION  
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**GGT 2030**  
GROWING GAUTENG TOGETHER

Sesotho/English

# **Lenaneo le Ntlafaditsweng la Mmetse la Kereiti ya R Grade R Mathematics Improvement Programme**



**Wekshopo ya 2 • Workshop 2**

**Buka ya Mosebetsi ya Monkakarolo • Participant's Workbook**

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

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

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

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Projeke ya Mmetse wa Kereiti ya R le Ntlatso ya Puo ke bohato ba pele ba **Lefapha la Thuto la Gauteng (Gauteng Department of Education)** le molekane wa lona wa sehlooho, **Gauteng Education Development Trust**.

Ntshetsopele le tlhahiso ya mehlodi ya thupelo le ya phaposi ya borutelo bakeng sa Projeke ya Mmetse wa Kereiti ya R le Ntlatso ya Puo di ile tsa tswelletswa ke tshehetso ka ditjhelete ya diprojeke e fanweng ke **United States Agency for International Development** le **Zenex Foundation**.

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## DITEBOHO

Diteboho tse kgethehileng ho:

- Baofisiri ba Botsamaisi ba Kharikhulamo, Botsamaisi ba Thuto ya Matitjhere le Botsamaisi ba Thuto e Kgethehileng ba Lefapha la Thuto la Gauteng, bakeng sa nyehelo ya bona ntlatsoeng ya disebediswa tsa rona tsa thuto.
- Baofisiri le matitjhere a Western Cape Education Department (WCED) ka nyehelo ya bona bakeng sa ho kenngwa tshebetsong ka kotleho ha Grade R Mathematics Programme (*R-Maths*) mane Western Cape pakeng tsa 2016 le 2019.
- Sehlopha se ngolang sa *R-Maths*. Basebetsi le baeletsi ba SDU.



Lenaneo le Ntlatsoeng la Mmetse la Kereite ya R le ntlatsoeng ho tloha ho *R-Maths*, e ileng ya phatlalatswa lekgetlo la pele ka 2017 ke Schools Development Unit, University of Cape Town. Tokelo ya kgatiso ya *R-Maths* e tshwerwe ke University of Cape Town.

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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)

# Tjhebokakaretso

## Sepheo

Ena ke ya bobedi ya diwekshopo tse leshome le metso e mmedi tsa Lenaneo le Ntlafaditsweng la Mmetse la Kereiti ya R (Lenaneo la Mmetse), tse etsang karolo ya Lefapha la Thuto la Gauteng (GDE) Projeke ya Mmetse wa Kereiti ya R le Ntlafatso ya Puo.

Sepheo sa wekshopo ena ke ho thusa matitjhere ho kenya tshebetsong Lenaneo la Mmetse ka diphaposing tsa bona tsa borutelo. Tsepamo ya wekshopo ena ke Sebaka le Sebopeho (Jeometri). Bankakarolo ba tla matlafatsa tsebo le kutlwisiso ya bona ya ho ruta le ho ithuta Karolong ya Dikahare ena, ho itokisetsa ho ruta diketsahalo tsa Sebaka le Sebopeho (Jeometri) ka diphaposing tsa bona tsa borutelo le ho nahanisisa dintlhatheo tsa tataiso tse tataisang ho ruta.

## Diphetho tsa ho ithuta

- ◆ Ho shebisisa ho kenya tshebetsong ha Kotara ya 1 Dibeke tsa 1–2
- ◆ Ho sibolla mawa a ho tshehetsa ho ruta mmetse Kereiting ya R (mohl. ho rarolla bothata, phuputso, tshibollo, ho botsa dipotso, ho nahana ka botebo, ho mamela ka mahlahlaha, le ho shebella)
- ◆ Ho sekaseka dikahare tsa Lenaneo la Mmetse tsa Kotara ya 1 Dibeke tsa 3–5 (Sebaka le Sebopeho (Jeometri))
- ◆ Ho sebedisa dintlhatheo tsa Lenaneo la Mmetse moralong wa beke le beke

## Dikahare tsa wekshopo

- ◆ Pulo le boikgopotso (Hora e 1)
  - ◆ Karolo ya 1: Tjhebokakaretso ya dikahare (Hora e 1)
- TEYE
- ◆ Karolo ya 2: Sebaka le Sebopeho (Jeometri) (Dihora tse 2)
- DIJO TSA MOTSHEARE
- ◆ Karolo ya 3: Ho etsa moralo bakeng sa ho ruta (Dihora tse 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.

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

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

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# Pulo le boikgopotso

Hora e 1

Mosebetsing wa hao wa *Kgutlela le yona sekolong* wa Wekshopo ya 1 o ile wa kotjwa ho phethela diketsahalo tse mmalwa. Re ka rata hore o nke metsotso e mmalwa o nahanisisa ka kgatelopele ya hao ho fihlela jwale.

Dihlotshwaneng tsa lona, nahanang ka ho ruta mmetse ha lona dibekeng tse pedi tse fetileng le kamoo le atlehileng ka teng ho kenya tshebetsong Kotara ya 1 Dibeke tsa 1–2.



## Ketsahalo ya 1

Sehlotshwaneng sa lona, buisanang ka dikatleho le diphephetso tsa lona mabapi le ho kenya tshebetsong Kotara ya 1 Dibeke tsa 1–2 tsa Lenaneo la Mmetse. Dumella motho ka mong ho fumana sebaka sa ho bua ka maikutlo a hae.

1. Ka bokgutshwanyane hlalosa kamoo o neng o hlophisa phaposi ya hao ya borutelo le kamoo o neng o itokisetsa ho ruta dibekeng tse pedi tsena.

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2. Buisanang ka tse sebeditseng hantle le tseo le fumaneng di le thata ho ka kenngwa tshebetsong. Na ho na le ya nang le tlhahiso e nang le thuso?

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3. Bua ka moggwa le nako eo o sebedisitseng dintlhatheo tsa tataiso tsa ho ruta nakong ya tsepamiso ya Mmetse ya lenaneo la letsatsi le letsatsi.

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### 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.

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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.



### Video ya 1

Shebellang video ya ketsahalo e tataiswang ke titjhere e kenyeletsang sehlotshwana sa baithuti.

O nahana hore sepheo sa ketsahalo eo ke sefe? Tsepamisa maikutlo ka ho kgetheha ho kamoo titjhere a rotloetsang baithuti ka dipotso ka teng le kamoo a shebellang moithuti ka mong ka teng.

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Ho Wekshopo ya 1 re buisane ka dintlhatheo tse tataisang tse robedi tsa ho ruta mmetse Kereiting ya R. Ketsahalo ya 2 e hloka hore o nyalanye e nngwe le e nngwe ya dintlhatheo tse robedi le ditateme tse pedi tse e hlalosing hantle ka ho fetisisa.



### Ketsahalo ya 2

1. Sehlopha ka seng se filwe enfolopo e nang le dikgetjhana tse mmalwa. Fumana dintlhatheo tse tataisang tse robedi tsa ho ruta mme o di behe ka mola hodima tafole ya hao.
2. Buisanang ka setateme ka nngwe mme le etse qeto ya hore se amana le ntlhatheo efe ka ho fetisisa. Bea setateme ka tlasa ntlhatheo ena.

# 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.

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# Karolo ya 1: Tjhebokakaretso ya dikahare Hora e 1

## Kotara ya 1 Tjhebokakaretso ya Dikahare: Sebaka le Sebopelo (Jeometri)

Dikahare bakeng sa ho ruta le ho ithuta ho Dibeke tsa 3–5 di tsepame haholoholo ho Karolo ya Dikahare, Sebaka le Sebopelo (Jeometri) tsa SLTK. Dikahare tsena di kenyeletsa ho feta ho ruta baithuti ho hlwaya dibopelo tsa jeometri. Kutlwisiso ya bona ya sebaka le sebopelo e itshetlehile haholoholo ho taba ya hore ebe ba utlwisisa le ho ka sebedisa tlotlontswe ya boemo ho hlalosa sebaka seo ntho e leng ho sona (mohl. hodima, ka hara, pela, kamora, ka pela). Baithuti hape ba lokela ho kgona ho bona dintho ho tswa mahlakoreng kapa ditjhebong tse fapaneng (mohl. ho tloha ka hodimo, ho tloha ka tlase, e robaditswe ka lehlakore, e kubutilwe).

Bala tjhebokakaretso ya dikahare bakeng sa Sebaka le Sebopelo (Jeometri) ho maqephe ana 126–131 a *Tataiso ya Mareo*. E fana ka tjhebokakaretso ya dikahare tsa Lenaneo la Mmetse tse lokelang ho rutwa kotareng ka nngwe ya Kereiti ya R.

- ◆ Mongolo o bolou ke dikahare tse tswang ho SLTK tsa Kereiti ya R bakeng sa Mmetse.
- ◆ Ditlhaloso tsa mongolo le dikahare tse ngotsweng ka botsho di kentswe bakeng sa ho atolosa le ho ahella ho SLTK.
- ◆ Dihlooho di hlahlamisitswe ho bontsha kgatelopele ya ntshetsopole ho tloha sehloohong se le seng ho ya ho se seng.



### Ketsahalo ya 3

Sheba 3.1–3.4 tsa tjhebokakaretso ya dikahare bakeng sa Sebaka le Sebopelo (Jeometri) ho maqephe ana 126–131 a *Tataiso ya Mareo*. Sehlopheng sa lona, etsang tse latelang:

1. Shebang sehlooho ka seng mme le buisane ka dikahare le kgatelopele ya ntshetsopole nakong yohle ya dikotara tse nne.

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

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

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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.

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2. Shebang mongolo o motsho mme le buisane ka seo Lenaneo la Mmetse le se eketsang ho dikahare tsa SLTK.

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3. Hobaneng o nahana hore tekanyo ya Sebaka le Sebopoho (Jeometri) ke ya bobedi e phahameng ka ho fetisisa ho Dikarolo tsa Dikahare Kereiting ya R?

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4. O qadile jwang ho ruta Sebaka le Sebopoho (Jeometri) ka phaposing ya hao ya borutelo? Fana ka mehlala ya dithuto le diketsahalo tseo o di sebedisitseng nakong e fetileng.

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## 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?

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

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



# Karolo ya 2: Sebaka le Sebopeho (Jeometri)

Dihora tse 2

## Mareo a sebaka

(Metsotso e 30)

Baithuti ba qala ho ithuta ka mareo a sebaka a kang boemo, tshupiso, tlwaetso (ditjhebo tse fapaneng) le tjhebo ha ba ntse ba sebedisa mmele ya bona ho sibolla kamano pakeng tsa bona, batho ba bang le dintho.



### Ketsahalo ya 4

Motsamaisi o entse tselana ya ditshita e bobebe. Mmoho le molekane fanang sebaka sa ho tataisana ho feta ka hara tselana eo ya ditshita. Sebedisa puo ya boemo le ya ditshupiso ho fana ka ditaello tse hlakileng.

### Ho sebedisa *Buka ya Diphoustara* ho bua ka boemo le tshupiso

*Buka ya Diphoustara* ya Lenaneo la Mmetse e fana ka menyetla ya ho sebedisa maemo a bophelo a nnete ho sibolla mareo. Phoustareng ya 9 ya *Buka ya Diphoustara* o ka bona moo Malusi a dulang papisong le batho ba bang le dibaka tse motseng wa habo. Phoustara ena e ka sebediswa ho kgothaletsa dipuisano mabapi le boemo ba batho le dintho papisong le batho ba bang le dintho tse ding le ho kgothaletsa baithuti ho sebedisa le ho tlwaela puo e hlalosang sebaka, boemo le tshupiso. Baithuti ba amanya mmetse le maphelo a bona a kamehla ha ba ntse ba buisana le ho rarolla mathata.



### Ketsahalo ya 5

Sehlotshwaneng sa lona, shebang Phoustara ya 9 mme le buisane ka tse latelang:

1. Ke mantswe afe a boemo le tshupiso ao o ka a tsebisang ho baithuti le ho ba kgothaletsa ho a sebedisa?

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2. Ke dipotso dife tse ding tseo o ka di botsang tse ka ba thusang ho ithuta mabapi le boemo, tshupiso, tlwaetso (ditjhebo) le tjhebo?

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Sheba maqephe a 172–177 a *Tataiso ya Mareo* ho bala haholwanyane mabapi le sebaka.

## 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.

## Ho tsebisa dibopeho

(Hora e 1)

Kereiting ya R baithuti ba tsepamisa maikutlo hodima ho lemoha, ho hlwaya le ho bolela dintho tsa mahlakore a mararo (3-D) le dibopeho tsa mahlakore a mabedi (2-D).

- ◆ 3-D e bolela ntho e nang le mahlakore a mararo: bolelele, bophara (bobatsi) le bophahamo.
- ◆ 2-D e bolela hore sebopeliso se na le mahlakore a mabedi: bolelele le bophara (bobatsi).

### **Ho elellwa, ho hlwaya le ho bapisa dintho tsa mahlakore a mararo**

Kereiting ya R baithuti ba sibolla makgetha a dintho tsa letsatsi le letsatsi. Ba aha meaho ba sebedisa dintho tsa ka tlung tse resaekelwang tse kang mabokoso, makotikoti, ditshelo, bokahare ba dipampiri tsa ntlwana, dibolo jwalojwalo. Ba batlisisa le ho hlalosa dintho tse nang le sebopeliso sa lebokoso le sa bolo. Ba bapisa le ho hlophisa dintho mme ba bua ka ditshwano le diphapang.

Shebang maqephe a 178–181 a *Tataiso ya Mareo* ho bala haholwanyane ka dintho tsa 3-D.

### **Ho tloha ho dintho tsa 3-D ho isa ho dibopeho tsa 2-D**

Kereiting ya R, tsepamo e hodima makgetha a dintho le dibopeho. Baithuti ba ithuta ho hlwaya le ho hlalosa makgetha a bobedi dintho le dibopeho.



### 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.



## Ketsahalo ya 6

Sibolla le ho hlalosa makgetha a lebokoso.

- ◆ Bea lebokoso hodima sekotwana sa pampiri.
- ◆ Tereisa ho potoloha botlase ba lebokoso.
- ◆ Hlalosa mela ya motako wa hao.
- ◆ Bolela sebopeho seo o se takileng.
- ◆ O tseba jwang hore ke kgutlonnetsepa/kgutlonne?
- ◆ Se na le mahlakore a makae?
- ◆ Se na le dihuku tse kae?
- ◆ Phapang ke efe pakeng tsa lebokoso le kgutlonnetsepa/kgutlonne?

## Ho elellwa, ho hlalosa le ho bapisa dibopeho tsa mahlakore a mabedi

Baithuti ba lokela ho shebella le ho buisana ka dibopeho tse fapaneng tsa 2-D ho fumana hore ebe makgetha a tlwaelehileng a sebopeho se itseng ke afe, mohl. esitana le ha dikgutlotharo tsohle di shebahala di sa tshwane hantle, kaofela ha tsona di na le mahlakore a mararo le dihuku tse tharo; dikgutlonne tsohle di na le mahlakore a mane le ha di ka ba tlwaetsong efe kapa efe.

Sebedisa diboloko tsa makgetha tse tafoleng ya hao ho sibolla dibopeho tsa 2-D.



## Ketsahalo ya 7

Sehlopheng sa lona, buang ka sebopeho sa bokahodimo ba boloko ka bong ba makgetha.

- ◆ Sheba sebopeho se nang le dihuku tse nne.
- ◆ Sebedisa monwana wa hao ho tereisa ho potoloha sebopeho. Sebopeho seo se bitswa eng?
- ◆ Sheba sebopeho se se nang mahlakore a otlolohileng.
- ◆ Sebedisa monwana wa hao ho tereisa ho potoloha sebopeho. Sebopeho seo se bitswa eng?
- ◆ Sheba sebopeho se nang le mahlakore a mararo a lekanang hantle.

Shebang maqephe a 182–189 a *Tataiso ya Mareo* ho bala haholwanyane ka dibopeho tsa 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.

## Molahare

(Metsotso e 30)

Ntho kapa sebopeho se na le molahare ha se kgona ho arolwa ka dihalofo tse pedi tse lekanang hodima mola o mahareng. Dipaterone tsa molahare di ka fumanwa mmeleng ya rona, tlhahong, tikolohong ya kaho le ditshwantshong. Mola wa molahare o arola sebopeho ka dikarolo tse pedi tse tshwanang. Mola o ka rapama kapa wa ema tsepa.

Shebang maqephe a 188–191 a *Tataiso ya Mareo* ho bala haholwanyane ka molahare

**Ntlhatheo ya boikwetliso:** Baithuti ba lokela ho ba le nako e ngata ya ho ikwetlisa ka bokgoni le tsebo tse ntjha. Ha baithuti ba dula ba ikwetlisa ka seo ba seng ba ithutile sona, ba ba le boitsebelo mme ba itshepa ho feta. Baithuti ba natefelwa ke phetapheto le boikwetliso. Titjhere ya Kereiti ya R o lokela ho fana ka menyetla e iphetang bakeng sa hore baithuti ba ikwetlise le ho ntlafatsa bokgoni bo botjha.

# 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?			



# Karolo ya 3: Ho etsa moralo bakeng sa ho ruta

Dihora tse 2

## Kakaretso ya Dikahare ya Kotara ya 1 (Dibeke tsa 3-5) (Metsotso e 40)

Sehloamathiso A: Kotara ya 1 Kakaretso ya Dikahare tsa Beke le Beke (Dibeke tsa 3-5) se hlahisa Tsepamiso ya Karolo ya Dikahare ya sehlooho bakeng sa beke ka nngwe, dihlooho tse lokelang ho rutwa, tsebo e ntjha le tsepamiso ya boikwetliso bakeng sa beke ka nngwe, le diketsahalo tse sisintsweng bakeng sa mosebetsi wa tlelase yohle, o tataiswang ke titjhere le wa dihlopha ka boikemelo bakeng sa beke ka nngwe.

Balang dikarolo tsa diketsahalo tsa tlelase yohle, tse tataiswang ke titjhere le tsa diteishene tsa tshebetso mme le phethele Ketsahalo ya 8.



### Ketsahalo ya 8

Sheba ho Sehloamathiso A: Kotara ya 1 Kakaretso ya Dikahare tsa Beke le Beke (Dibeke tsa 3-5). Araba dipotso.

Dipotso	Beke ya 3	Beke ya 4	Beke ya 5
Tsepamiso ya Karolo ya Dikahare ke efe bakeng sa beke ena?			
Mareo a sehlooho ke afe ao baithuti ba tla beng ba ithuta ona?			
Ke tsebo efe e ntjha e tla tsebiswa?			
Ke bokgoni bofe bo ikwetliswang?			



**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.

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

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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.

## Tataiso ya Diketsahalo: Kotara ya 1: Dibeke tsa 3, 4 le 5

(Metsotso e 60)



### Video ya 3

Shebellang video ya baithuti ba buisanang ka phoustara.

1. Ngola fatshe dipotso le mathata a mmetse ao titjhere a a fang baithuti nakong ya puisano ya phoustara.

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2. Ngola dipotso tse ding tseo titjhere a ka beng a ile a di botsa.

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Sheba ho Dibeke tsa 3, 4 le 5 ho *Tataiso ya Diketsahalo: Kotara ya 1*. Phethelang Ketsahalo ya 9 sehlotshwaneng sa lona.



### Ketsahalo ya 9

1. Fumana Dibeke tsa 3, 4 le 5 ho *Tataiso ya Diketsahalo: Kotara ya 1*. Arabang dipotso.
  - ◆ Tsepamo ho Karolo ya Dikahare ke efe bakeng sa beke ka nngwe?
  - ◆ Ke dihlooho dife le tsebo e ntjha efe tse rutwang bekeng ka nngwe?
  - ◆ Dikahare tsa 'Kwetliso' di hokela eng ho beke e fetileng?
  - ◆ O hloka eng bakeng sa ho itokisa pele o ruta bekeng ka nngwe?
  - ◆ Balang diketsahalo tsa tlelase yohle le diketsahalo tsa dihlotshwana.
  - ◆ Buisanang sehlotshwaneng sa lona kamoo le tlang ho rala le ho hlophisa tlelase ya hao bakeng sa dibeke tse tharo tsena tsa ho ruta.
2. Sheba ho Sehlomathiso A: Kotara ya 1 Kakaretso ya Diketsahalo tsa Beke le beke (Dibeke tsa 3–5). Nyalanya diketsahalo tsa tlelase yohle le tsa dihlotshwana ho Dibeke tsa 3, 4 le 5 tsa *Tataiso ya Diketsahalo: Kotara ya 1* ho Kakaretso ya Dikahare bakeng sa beke ka nngwe.



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



Hopola hore tekanyetso ya Kereiti ya R ke e sa hlophiswang mme ke e tswelang. Re lokela ho shebella baithuti letsatsi lohle ka hare le kantle ho phaposi ya borutelo. Aekhone ya leihlo e re hopotsa hore re hloka ho shebella baithuti ha ba ntse ba sebetsa, mme re lokela ho mamela ka hloko ha ba bua le rona le bomphato ba bona.

Lenaneo la Mmetse le radilwe ho ya ka potoloho ya dihlotshwana hara beke mme titjhere o shebana ka ho qolleha le sehlotshwana se le seng ka letsatsi, a shebile le ho mamela baithuti ha ba phetha mesebetsi e itseng. Nako ena e fa titjhere monyetla wa ho shebella ka hloko moithuti ka mong le ho bokella tlhahisoleseding e mabapi le kgatelopele ya hae.

Sheba diboloko tse fifaditsweng qetellong ya ketsahalo e tataiswang ke titjhere: '**Lekola hore baithuti ba kgona ho**'. Titjhere o boloka ka kelellong moithuti ka mong mme hang ha baithuti ba tsamaile tsatsing leo o ngola fatshe tseo a di lemohileng bukeng e ikgethileng ya ditemoho e nang le sebaka bakeng sa dinoutso tsa moithuti ka mong.

## Diketsahalo tsa ho kwala

(Metsotso e 20)



### Ketsahalo ya 10

**Dithuto tse ithutilweng:** Nahana ka seo o ithutileng sona nakong ya wekshopo mme o tlatse tafole ena.

Dintho tseo ke seng ke di etsa tse sebetsang hantle	Mehopolo e metjha eo nka lakatsang ho e leka



### 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.



### **Mosebetsi wa Kgutlela le yona sekolong**

1. Bala maqephe a *Tataiso ya Mareo* ao ho neng ho buuwe ka ona nakong ya wekshopo ena.
2. Hlophisa sebaka sa mmetse sa Sebaka le Sebopeho (Jeometri). Nka foto ya sona mme o tle le sona wekshopong e latelang.
3. Sebedisa *Tataiso ya Diketsahalo: Kotara ya 1* bakeng sa ho rera le ho kenya tshebetsong Dibeke tsa 3–5 tsa Lenaneo la Mmetse. Ha o rera, nahana ka kamoo dintlhatheo tse tataisang di ka susumetsang moralo le ho ruta ha hao:
  - O tla tseba jwang seo baithuti ba seng ba se tseba le ho se utlwisisa?  
**(ntlhatheo ya mekgahlelo)**
  - O tla ahella jwang hodima tsebo ya kgale eo baithuti ba tlang le yona lapeng?  
**(ntlhatheo ya tikoloho)**
  - O tla netefatsa jwang hore diketsahalo tse rerilweng di molemo bakeng sa baithuti?  
**(ntlhatheo ya tikoloho)**
  - O tla aha jwang ho mamela le ho bua ho mahlahahlaha ka hara diketsahalo tsa hao tse rerilweng?  
**(ntlhatheo ya kgokahano)**
4. Ngola boikgopotso ba se ileng sa sebetsa hantle le se sa kang sa sebetsa hantle. Tloo le dinoutso tsa hao tsa boikgopotso le mehlala e meng ya mosebetsi oo baithuti ba o entseng wekshopong e latelang.

### **Tlhahlobo**

Tlatsa Foromo ya Tlhahlobo.

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

**Term 1: Activity Plan**

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



## SEHLOMATHISO A: KOTARA YA 1 KAKARETISO YA DIKAHARE TSA BEKE LE BEKE (DIBEKE TSA 3-5)

### Kotara ya 1: Moralo wa Ketsahalo

Beke ya 3				
<b>KAROLO YA DIKAHARE: SEBAKA LE SEBOPEHO (JEOMETRI)</b>				
<b>SEHLOOHO: Lemoha, hlwaya le ho bolela dintho tsa 3-D; ho hlalosa, ho hlophisa le ho bapisa dintho tsa 3-D (mabokoso le dibolo); boemo, tlwaetso le ditjhebo: kahare le kantle</b>				
<b>TSEBISA TSEBO E NTJHA:</b> Ho bala dintho 1-5, makgetha a mabokoso le dibolo, dintho tse thethang le tse thellang, boemo: ka hare le ka ntle, kgolo/nyane, kgolo ho fetisisa/nyane ho fetisisa				
<b>HO ETSA:</b> Ho bala ka molomo 1-5, ho hatella kgopolo ya dinomoro (1), ho hlophisa				
Diketsahalo tsa tlelase yohle		Ketsahalo e tataiswang ke titjhere	Diketsahalo tsa diteisheneng tsa tshebetso	
<b>Letsatsi la 1</b>	Sibolla makgetha a mabokoso le dibolo.	Ho bala ka neeletsano pakeng tsa ntho tse pedi 1-5. Papadi ya kgolo le nyane. Makgetha a mabokoso le dibolo. Bapisa mabokoso le dibolo. Hlophisa dintho tse thellang le tse thethang.	<b>Ketsahalo ya 1</b>	Aha dintho ka mabokoso.
<b>Letsatsi la 2</b>	Bapisa boholo ba mabokoso le dibolo.		<b>Ketsahalo ya 2</b>	Dibolo tse kgolo le tse nyane tsa hlama ya ho bapala – ho hlophisa.
<b>Letsatsi la 3</b>	Sibolla hore ke dife tse thellang, ke dife tse thethang; kgolo/kgolo ho fetisisa le nyane/nyane ho fetisisa.		<b>Ketsahalo ya 3</b>	Dikgatiso tsa pente tse nang le mabokoso kapa diboloko.
<b>Letsatsi la 4</b>	Buisanang ka hore ke hobaneng ha dintho di thetaha le ho thella.		<b>Ketsahalo ya 4</b>	Aha dibaka moo diphoofole di sireletswang bakeng sa diphoofole tsa polasing ka diboloko tsa ho aha.
<b>Letsatsi la 5</b>	Boemo: ka hare le ka ntle.			
Beke ya 4				
<b>KAROLO YA DIKAHARE: SEBAKA LE SEBOPEHO (JEOMETRI)</b>				
<b>SEHLOOHO: Ho lemoha, ho hlwaya le ho bolela dibopeho tsa 2-D (sedikadikwe); bapisa dintho tsa 3-D le dibopeho tsa 2-D; molahare</b>				
<b>TSEBISA TSEBO E NTJHA:</b> Sedikadikwe, molahare, tsebisa nomoro ya 2				
<b>HO ETSA:</b> Ho bala ka molomo 1-5, ho bala dintho 1-5, nomoro ya 1				
Diketsahalo tsa tlelase yohle		Ketsahalo e tataiswang ke titjhere	Diketsahalo tsa diteisheneng tsa tshebetso	
<b>Letsatsi la 1</b>	Tsebisa 2; pale ya frizi ya nomoro.	Ho bolela sebopeliso le mmala wa dibadi ho tswa ho <i>Khiti ya Disebediswa</i> . Ketsahalo ya sedikadikwe – makgetha. Dikarete tsa matheba a dinomoro, ditshwantsho le matshwao 1 le 2.	<b>Ketsahalo ya 1</b>	Thempleiti ya hlama ya ho bapala – etsa 2.
<b>Letsatsi la 2</b>	Sebopeliso ke eng? Tsebisa sedikadikwe.		<b>Ketsahalo ya 2</b>	Dikgatiso tsa sedikadikwe – pente le ditshelo.
<b>Letsatsi la 3</b>	Fumana didikadikwe ka phaposing ya borutelo.		<b>Ketsahalo ya 3</b>	Thempleiti ya 'Poleiti' – seha le ho manamisa ditshwantsho tsa dijo.
<b>Letsatsi la 4</b>	Bala dikarolo tse fapaneng tsa mmele: sibolla molahare mmeleng ya bona.		<b>Ketsahalo ya 4</b>	Diphazele tsa mmele.
<b>Letsatsi la 5</b>	Sedikadikwe (sebedisa phoustara) le molahare setshwantshong.			

Week 5				
<b>CONTENT AREA:</b> SPACE AND SHAPE (GEOMETRY)				
<b>TOPIC:</b> 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				
<b>INTRODUCE NEW KNOWLEDGE:</b> Square, directionality (forwards/backwards), position (inside/outside)				
<b>PRACTISE:</b> Circle, oral counting 1–5, counting objects 1–5, number concept 1 and 2				
Whole class activities		Teacher-guided activity	Workstation activities	
<b>Day 1</b>	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).	<b>Activity 1</b>	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).
<b>Day 2</b>	Properties of the square; difference between circle and square.		<b>Activity 2</b>	
<b>Day 3</b>	Word problem ( <i>Poster Book</i> ) – square; find squares in the class.		<b>Activity 3</b>	
<b>Day 4</b>	Directionality (forwards and backwards).		<b>Activity 4</b>	
<b>Day 5</b>	Make patterns with squares, colours.			

Beke ya 5				
KAROLO YA DIKAHARE: SEBAKA LE SEBOPEHO (JEOMETRI)				
SEHLOOHO: Lemoha, hlwaya le ho bolela dibopeho tsa 2-D (kgutlonnetsepa); bapisa dintho tsa 3-D le dibopeho tsa 2-D (lebokoso le kgutlonnetsepa); tshupiso: ho ya pele/ho ya morao; boemo: kahare/kantle				
TSEBISA TSEBO E NTJHA: Kgutlonnetsepa, tsela ya tshupiso (ho ya pele/ho ya morao), boemo (kahare/kantle)				
HO ETSA: Sedikadikwe, ho bala ka molomo 1-5, ho bala dintho 1-5, kgopolo ya nomoro 1 le 2				
Diketsahalo tsa tlelase yohle		Ketsahalo e tataiswang ke titjhere	Diketsahalo tsa ditesheining tsa tshebetso	
Letsatsi la 1	Tsebisa kgutlonnetsepa (tlotlontswe).	Ho bala ka molomo/ho nyalanya dikarete tsa matheba, tsa dinomoro tsa 1 le 2. Thetsa diboloko tsa ho bala tsa <i>Unifix</i> , aha ditora tsa <i>Unifix</i> . Makgetha a lebokoso le a kgutlonnetsepa. Mokotlana o phopholetswang (mabokoso le dibolo). Ketsahalo ya kgutlonnetsepa ya 2-D – ho tereisa ho potoloha lebokoso. Boemo (kahare/kantle).	Ketsahalo ya 1	Hlama ya ho bapala le sebopeho se sehang dikuku sa sedikadikwe le sa kgutlonnetsepa ho etsa mmotlolo.
Letsatsi la 2	Makgetha a kgutlonnetsepa; phapang pakeng tsa sedikadikwe le kgutlonnetsepa.		Ketsahalo ya 2	Seha o ntshe dikgutlonnetsepa mme o di manamise ho etsa setshwantsho.
Letsatsi la 3	Dipalo tsa mantswe ( <i>Buka ya Diphoustara</i> ) – kgutlonnetsepa; batla dikgutlonnetsepa ka tlelaseng.		Ketsahalo ya 3	Ho hlophisa dintho tse nang le dibopeho tsa kgutlonnetsepa le dibopeho tsa sedikadikwe.
Letsatsi la 4	Tsela ya tshupiso (ho ya pele le morao).		Ketsahalo ya 4	Diphazele (bonyane dikotwana tse tshelletseng).
Letsatsi la 5	Etsa dipaterone ka dikgutlonnetsepa, mebala.			

# Workshop 2 Evaluation Form

1. Did the workshop meet your expectations?

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

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

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

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

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## Foromo ya Tlhahlobo ya Wekshopo ya 2

1. Na wekshopo ena e fihletse ditebello tsa hao?

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2. O ithutile eng ho wekshopo ena se o thusitseng ka ho fetisisa?

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3. Na ho na le seo o sa kang wa se rata kapa seo o ileng wa thatafallwa ke ho se utlwisisa?

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4. O tla sebedisa jwang seo o ithutileng sona mona phaposeng ya hao ya borutelo ya Kereiti ya R?

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5. Na o na le ditlhahiso tse itseng bakeng sa ho ntlafatsa diwekshopo tse ding tse tlang?

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