Sesotho/English

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

Wekshopo ya 2 ● Workshop 2
Tataiso ya Motsamaisi ● Facilitator's Guide

Projeke ya Mmetse wa Kereiti ya R le Ntlafatso 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 Ntlafatso ya Puo di ile tsa tswelletswa ke tshehetso ka ditjhelete ya diprojeke e fanweng ke **United States Agency for International Development** le **Zenex Foundation**.

Projeke ya Mmetse wa Kereiti ya R le Ntlafatso ya Puo e tsamaiswa ke **JET Education Services** mmoho le **Schools Development Unit** ya **UCT** le **Wordworks** jwaloka balekane ba setegeniki.

Schools Development Unit (SDU) ya **University of Cape Town** (UCT) ke molekane wa setegeniki wa mmetse bakeng sa Projeke ya Mmetse wa Kereiti ya R le Ntlafatso ya Puo. SDU ke yuniti e kahara School of Education sa UCT e tsepameng ho ntshetsopele ya porofeshene ya matitjhere ho Mmetse, Saense, Tsebo ya ho Bala le ho Ngola/Puo le Bokgoni ba Bophelo ho tloha ho Kereiti ya R ho isa ho Kereiti ya 12. SDU e fana ka mangolo a botitjhere le a dithuto tse kgutshwane tse ananetsweng tsa UCT, mosebetsi o theilweng dikolong, ntshetsopele ya disebediswa le diphuputso bakeng sa ho tshehetsa ho ruta le ho ithuta dikarolong tsohle tsa Afrika Borwa.

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 ntlafatsong 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 katleho 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.

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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)

Preparation
♦ PPT welcome and outcomes
♦ Copy and cut out the Appendix B strips and place them into one envelope per group.
♦ Set up a simple obstacle course in an open space.
♦ Prepare the tables with materials before each session.

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 mahlahahlaha, 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)

Tokisetso

- ♦ PPT kamohelo le diphetho
- ♦ Kopolla le ho seha dikgetjhana tsa Sehlomathiso B mme o di kenye ka hara enfolopo e le nngwe bakeng sa sehlopha ka seng.
- ♦ Etsa tselana ya ditshita e bobebe sebakeng se bulehileng.
- ♦ Lokisa ditafole tse nang le disebediswa pele ho karolo ka nngwe.

Materials

- Flipchart paper, kokis
- Props for obstacle course
- *Concept Guide*
- *Poster Book*
- *Activity Guide: Term 1*
- Boxes, balls and ramps for each table
- Large sheet of newsprint (for tracing around a person)
- Newsprint and crayons for each table
- Attribute blocks for each table

Disebediswa

- Pampiri ya fliptjhate, dikoki
- Dipropo bakeng sa tselana ya ditshita
- *Tataiso ya Mareo*
- *Buka ya Diphoustara*
- *Tataiso ya Diketsahalo: Kotara ya 1*
- Mabokoso, dibolo le dirempe bakeng sa tafole ka nngwe
- Leqephe le leholo la pampiri ya ho ngolla (bakeng sa ho tereisa ho potoloha motho)
- Pampiri ya ho ngolla le dikerayone bakeng sa tafole ka nngwe
- Diboloko tsa makgetha bakeng sa tafole ka nngwe

Opening and reflection

1 hour

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

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

Activity 1

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

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

_____
_____
_____

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

_____
_____
_____

Pulo le boikgopotso

Dinoutso tsa motsamaisi

♦ PPT: Bula kopano, o amohele bankakarolo mme o bale diphetho tsohle bakeng sa wekshopo.

♦ Hopotsa bankakarolo mosebetsi wa *Kgutlela le yona sekolong* ho tswa qetellong ya Wekshopo ya 1. Kopa bankakarolo ho sebetsa ka dihlotshwana ho nahanisisa mosebetsi ona le ho phethela **Ketsahalo ya 1**.

♦ Dihlotshwana di abelana dintlha tsa bohlokwa le sehlopha se seholo.

♦ Etsa lenane la mehlala ya diketso tse lokileng hodima pampiri ya ho ngolla mme o kgothaletse bankakarolo ho di ngola fatshe kapa ho nka foto ya pampiri eo ya ho ngolla jwaloka rekoto.

♦ Fatshe, bea sekotwana sa kgwele e bolelele ba phaposi ya borutelo. Tshwaya ntlheng e nngwe ya kgwele: 1 = Lenaneo la Mmetse le entse phapang e kgolo ho ruteng ha ka. Tshwaya ntlheng e nngwe ya kgwele: 10 = Lenaneo la Mmetse ha le a etsa phapang ho ruteng ha ka.

♦ Mema bankakarolo ba mmalwa ka nako ho tla ema hodima kgwele ho bontsha hore ba tshwanelwa ke sebaka sefe sekaleng le ho hlalosa hore ke hobaneng ha ba kgethile ho ema moo.

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.

   _____
   _____
   _____

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?

   _____
   _____
   _____

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

_____

_____

_____

Facilitator's notes

♦ Wrap us this session with feedback from each group. Refer to specific activities in *Activity Guide: Term 1* to support what participants share.

♦ Discuss the video with a focus on how participants managed the teacher-guided activity in Week 2.

Video 1

Activity Guide: Term 1, Week 2, Teacher-guided activity #3 (page 46)

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

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

_____

_____

_____

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

Facilitator's notes

♦ Hand out one envelope containing the eight guiding principles of teaching and matching statements to each group.

♦ Explain that the participants need to match the principles with the statements to complete **Activity 2**.

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.

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

_____

_____

_____

Dinoutso tsa motsamaisi

♦ Phethela karolo ena ka tlaleho e tswang sehlotshwaneng ka seng. Bua ka diketsahalo tse itseng tse ho *Tataiso ya Diketsahalo: Kotara ya 1* ho tshehetsa seo bankakarolo ba buang ka sona.

♦ Buisanang ka video le tsepamisitse maikutlo ho kamoo bankakarolo ba tsamaisitseng ketsahalo e tataiswang ke titjhere ho Beke ya 2.

Video ya 1

Tataiso ya Diketsahalo: Kotara ya 1, Beke ya 2, Ketsahalo e tataiswang ke titjhere #3 (leqephe la 47)

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.

_____

_____

_____

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 ditatemente tse pedi tse e hlalosang hantle ka ho fetisisa.

Dinoutso tsa motsamaisi

♦ Efa sehlopha ka seng enfolopo e le nngwe e kentseng dintlhatheo tse tataisang tse robedi tsa ho ruta le ditatemente tse nyalanang le tsona.

♦ Hlalosa hore bankakarolo ba lokela ho nyalanya dintlhatheo le ditatemente bakeng sa ho phethela **Ketsahalo ya 2**.

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 setatemente ka nngwe mme le etse qeto ya hore se amana le ntlhatheo efe ka ho fetisisa. Bea setatemente 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).

Facilitator's notes

♦ Ask the participants: If I say 'space and shape' what words come to mind?

♦ List the words that they share on flipchart paper.

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:

Karolo ya 1: Tjhebokakaretso ya dikahare

Kotara ya 1 Tjhebokakaretso ya Dikahare: Sebaka le Sebopeho (Jeometri)

Dikahare bakeng sa ho ruta le ho ithuta ho Dibeke tsa 3–5 di tsepame haholoholo ho Karolo ya Dikahare, Sebaka le Sebopeho (Jeometri) tsa SLTK. Dikahare tsena di kenyeletsa ho feta ho ruta baithuti ho hlwaya dibopeho tsa jeometri. Kutlwisiso ya bona ya sebaka le sebopeho e itshetlehile haholoholo ho taba ya hore ebe ba utlwisa 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 Sebopeho (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 ntshetsopele 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 Sebopeho (Jeometri) ho maqephe ana 126–131 a *Tataiso ya Mareo*. Sehlopheng sa lona, etsang tse latelang:

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

_____

_____

_____

_____

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

_____

_____

_____

_____

Refer to the black text. Main additions to CAPS are:
- position of child in relation to their surroundings
- exploring 3-D objects: flat, round, square or rectangular shape
- rectangle (referred to incidentally in Term 1 and taught in Term 3)
- recognise, identify and name 2-D shapes
- comparing rectangles and squares
- curved and straight lines.

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

_____

_____

_____

_____

Understanding more about their world – everything around us has a shape. Learning the correct language enables learners to talk about and describe shapes.
Many of the terms also apply to understanding the position of number in the counting sequence or the sequence of items in a pattern. Many life skills depend on spatial awareness and skills, e.g. following directions or reading a map, packing things into a container, etc.

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.

_____

_____

_____

_____

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

_____
_____
_____
_____

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

_____
_____
_____
_____

Sheba mongolo o motsho. Ditlatsetso tse ka sehloohong ho SLTK ke:
- boemo ba ngwana malebana le tikoloho eo a leng ho yona
- ho sibolla dintho tsa 3-D: sebopeho se sephara, se tjhitja, se kgutlonnetsepa kapa kgutlonne
- kgutlonne (eo ho buuweng ka yona hanyane ho Kotara ya 1 mme ya rutwa ho Kotara ya 3)
- ho elellwa, hlwaya le ho bolela dibopeho tsa 2-D
- ho bapisa dikgutlonne le dikgutlonnetsepa
- mela e kgopameng le e otlolohileng.

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

_____
_____
_____
_____

Ho utlwisisa ho feta mabapi le lefatshe la bona – dintho tsohle tseo re phelang hara tsona di na le sebopeho. Ho ithuta puo e nepahetseng ho kgontsha baithuti ho bua ka dibopeho le ho di hlalosa. Mareo a mangata hape a sebetsa ho utlwisisa boemo ba nomoro tlhahlamanong ya ho bala kapa tlhahlamanong ya dintho pateroneng. Mefuta e mengata ya bokgoni ba bophelo e itshetlehile ho temoho ya sebaka le bokgoni, mohl. ho latela ditshupiso kapa ho bala mmapa, ho pakela dintho ka hara setshelo, jj.

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

_____
_____
_____
_____

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.

Facilitator's notes
♦   Set up an obstacle course using chairs, hula hoops, planks, tables and a box.
♦   Examples of instructions to use: - Take two steps forward.   - Jump into the hula hoop.   - Jump out of the hula hoop.   - Stand with one leg in the hula hoop.   - Crawl forwards through the legs of the table.   - Stand up and turn around.   - Take three steps backwards.   - Put one leg inside the hula hoop.   - Jump over the box.   - Walk between the chairs.   - Stand in the box.

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

Facilitator's notes
PPT: Poster 9: Ask questions that require answers that use position and direction words.

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.

Karolo ya 2: Sebaka le Sebopeho (Jeometri)

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.

Dinoutso tsa motsamaisi

♦   Etsa tselana ya ditshita o sebedisa ditulo, dihulahupu, mapolanka, ditafole le lebokoso.
 ♦   Mehlala ya ditaelo tseo o ka di sebedisang:
  - Nka mehato e mmedi ho ya pele.
  - Tlolela kahara hulahupu.
  - Tlolela ka ntle ho hulahupu.
  - Ema ka leoto le le leng ka hara hulahupu.
  - Kgasetsa pele ka hara maoto a tafole.
  - Ema mme o fetohe.
  - Nka mehato e meraro o tjhetjha.
  - Kenya leoto le le leng kahara hulahupu.
  - Tlola lebokoso.
  - Tsamaya dipakeng tsa ditulo.
  - Ema ka hara lebokoso.

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 ditaelo tse hlakileng.

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

Dinoutso tsa Motsamaisi
PPT: Phoustara ya 9: Botsa dipotso tse hlokang dikarabo tse nang le mantswe a 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.

Facilitator's notes
♦ Ask participants to complete **Activity 5** in their small groups. Have each group report back on the activity.
♦ Remind participants that position and direction questions and vocabulary are introduced not only during Mathematics focus times, but are also woven into the daily programme throughout the school day. Also remind them that the teacher plays an important role in modelling appropriate vocabulary.

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?

_____
_____
_____

Position: on top of, behind, in front of, in, on, under, next to.
Direction: turn, straight, forwards, towards, away from, left, right, to, from, around, along, through.

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

_____
_____
_____

Examples:
- Where is …?
- What is in front/behind/under/next to the …?
- How will Malusi get to …?

Facilitator's notes
♦ Draw attention to Malusi waving goodbye to Granny. Ask the participants:
  - What do you see in the picture?
  - Where do you think Malusi is going?
  - How do you think he will get there?
♦ List the direction words as they are called out, e.g. turn, straight, forwards, towards, away from, left, right, to, from, around, along, through.
♦ Ask the participants: Where in the playground could Malusi hide from the other learners?
♦ List the position words, e.g. top of, behind, in, on, under, bottom, next to, upside down.
♦ PPT: Briefly define the spatial concepts of position, direction, orientation (views) and perspective. Discuss how learners first use their own bodies to explore spatial concepts.
♦ Ask participants what kinds of activities in their daily programmes will help learners develop the understanding of these spatial concepts.

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

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?

_____

_____

_____

Boemo: ka hodima, kamora, ka pela, ka hara, hodima, tlasa, pela.
Tshupiso: thinya, leba pele, pele, ho ya ho, ho tloha ho, le letshehadi, le letona, ho, ho tswa ho, ho potoloha, haufi le, ho feta hara.

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?

_____

_____

_____

Mehlala:
- ... e hokae?
- Ke eng e ka pela/kamora/ ka tlasa/ pela ....?
- Malusi o tla ya jwang ...?

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

Introducing shapes   (1 hour)

Facilitator's notes

♦ In Grade R learners recognise, identify and name three-dimensional (3-D) objects and two-dimensional (2-D) shapes.
♦ Refer to pages 178–189 of the *Concept Guide*.
♦ Discuss the terms '2-D shapes' and '3-D objects'.
♦ Use real objects to demonstrate as you explain the difference between these terms.

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

Facilitator's notes

♦ Discuss how learners engage with the properties of 3-D objects as they explore everyday materials such as boxes, cans, toilet roll inners, balls and so on.
♦ Ask participants what they provide in their classrooms that helps learners to discuss, compare and sort objects. Explain that the next activity will demonstrate how to help learners recognise the properties of objects.
♦ Show the video and ask participants to complete the activity in their groups.

In Grade R learners explore the properties of everyday objects. They build constructions using recycled household materials such as boxes, cans, tubs, toilet roll inners, 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

Activity Guide: Term 1, Week 3, Day 1 #4 (page 54)

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.

Ho tsebisa dibopeho

Dinoutso tsa motsamaisi

- Kereiting ya R baithuti ba lemoha, ba hlwaya le ho bolela dintho tsa mahlakore a mararo (3-D) le dibopeho tsa mahlakore a mabedi (2-D).
- Sheba ho maqephe a 178–189 a *Tataiso ya Mareo*.
- Buisanang ka mareo 'dibopeho tsa 2-D' le 'dintho tsa 3-D'.
- Sebedisa dintho tsa nnete ho bontsha ha o ntse o hlalosa phapang pakeng tsa mareo ana.

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 sebopeho se na le mahlakore a mabedi: bolelele le bophara (bobatsi).

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

Dinoutso tsa motsamaisi

- Buisanang kamoo baithuti ba sebetsanang le makgetha a dintho tsa 3-D ha ba ntse ba sibolla disebediswa tsa letsatsi le letsatsi jwaloka mabokoso, makotikoti, bokahare ba dipampiri tsa ntlwana, dibolo, jwalojwalo.
- Botsa bankakarolo hore ba fana ka eng ka diphaposing tsa bona tsa borutelo e thusang baithuti ho buisana, ho bapisa le ho hlophisa dintho. Hlalosa hore ketsahalo e latelang e tla bontsha kamoo ba ka thusang baithuti ho elellwa makgetha a dintho.
- Bontsha video mme o kope bankakarolo ho phethela ketsahalo eo dihlotshwaneng tsa bona.

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 sebopeho sa lebokoso le sa bolo. Ba bapisa le ho hlophisa dintho mme ba bua ka ditshwano le diphapang.

🎥 **Video ya 2**

Tataiso ya Diketsahalo: Kotara ya 1, Beke ya 3, Letsatsi la 1 #4 (leqephe la 55)

Shebellang video ya titjhere ya buang le baithuti ba hlophisang pokello ya dintho. Mamelang kamoo a susumeletsang baithuti ho hlalosa kamoo ba hlophisang dintho ka teng le kamoo ba sebedisang mareo a nepahetseng ho hlalosa ntho ka nngwe.

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

Moving from 3-D objects to 2-D shapes

Facilitator's notes
♦ Ask a volunteer to join you. Ask participants to look at this person from the front, the top and the side, and to describe what they see. Explain that we can view this person from many different positions if we move or if we turn them.
♦ Ask the volunteer to lie flat on his/her back on a large sheet of paper and trace around him/her with a koki. Once the outline has been drawn, have the participant stand up.
♦ Ask participants what they see on the paper.
♦ Ask questions that focus on the person and on the shape or outline of the person, for example: Can you look at the drawing from different positions?
♦ Place a number of boxes, a large piece of paper and crayons on each group's table. Explain that the participants will explore the boxes in **Activity 6**.
♦ After the activity discuss what participants observed. Point out that this activity helps learners create shapes by tracing around the base of objects.

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.

 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.
   Straight, four, two long and two short/all the same

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

Dinoutso tsa motsamaisi
♦ Kopa moithaopi ho tla ka pele. Ere bankakarolo ba shebe motho enwa ho tloha ka pele, ka hodimo le ka lehlakoreng, mme ba hlalose seo ba se bonang. Hlalosa hore re ka sheba motho enwa ho tloha maemong a mangata a fapaneng ha re ka tsamaya kapa ra mo fetola.
♦ Kopa moithaopi ho kakalla hodima leqephe le leholo la pampiri mme o mo tereise ka koki. Hang ha sebopeho sa ka ntle se takilwe, ere monkakarolo eo a eme.
♦ Botsa bankakarolo hore ba bona eng hodima leqephe.
♦ Botsa dipotso tse tsepameng ho motho eo le ho sebopeho kapa bokantle ba motho eo, ho etsa mohlala: Na le ka sheba motako oo ho tloha maemong a fapaneng?
♦ Bea mabokoso a mmalwa, leqephe le leholo la pampiri le dikerayone hodima tafole ya sehlopha ka seng. Hlalosa hore bankakarolo ba tla sibolla mabokoso ho **Ketsahalo ya 6**.
♦ Kamora ketsahalo buisanang ke seo bankakarolo ba se boneng. Bolela hore ketsahalo ena e thusa baithuti ho bopa dibopeho ka ho tereisa ho potoloha botlase ba dintho.

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.

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.
  E otlolohile, e mene, e mmedi e melelele mme e mmedi e mekgutshwane/e lekana kaofela

- ♦ 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

Facilitator's notes
♦ Explain that learners also need opportunities to explore a variety of shapes to find out what the common properties of a particular shape are. Refer participants to **Activity 7** and ask them to use their attribute blocks and to follow the instructions.
♦ Point out that the attribute block is an object. (It has length, width and height.) If you focus on the surface of the attribute block by running your finger along the edges, you will follow the lines and trace the length and width of the shape, e.g. a square, rectangle, triangle or circle (the edge of the circle is curved).
♦ Ensure that participants understand the difference between 3-D and 2-D and can explain this to learners.
♦ Emphasise that in Grade R learners do not learn the terms 3-D and 2-D. They only talk about 'objects' and 'shapes', but they should use the correct vocabulary to describe the properties.
♦ Link **Activity 7** to Poster 8 and briefly discuss the shapes.
♦ Explain the term 'orientation'.

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?
- ♦ Think of a question that would encourage learners to think and reason.

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

- ♦ 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

Dinoutso tsa motsamaisi
♦ Hlalosa hore baithuti le bona ba hloka menyetla ya ho sibolla dibopeho tse fapaneng ho fumana hore makgetha a tlwaelehileng a sebopeho se itseng ke afe. Romela bankakarolo ho **Ketsahalo ya 7** mme o ba kope ho sebedisa diboloko tsa bona tsa makgetha mme ba latele ditaelo.
♦ Supa hore boloko ba makgetha ke ntho. (Bo na le bolelele, bophara le bophahamo.) Haeba o tsepama ho bokahodimo ba boloko ba makgetha ka ho tsamaisa monwana wa hao maphethelong, o tla latela mela mme o tereise bolelele le bophara ba sebopeho seo, mohl. kgutlonnetsepa, kgutlonne, kgutlotharo kapa sedikadikwe (maphethelo a sedikadikwe a kgopame).
♦ Netefatsa hore bankakarolo ba utlwisisa phapang pakeng tsa 3-D le 2-D mme ba tla kgona ho hlalosetsa baithuti seo.
♦ Hatella hore baithuti ba Kereiti ya R ha ba ithute mareo ana 3-D le 2-D. Ba bua feela ka 'dintho' le 'dibopeho', empa ba lokela ho sebedisa tlotlontswe e nepahetseng ho hlalosa makgetha.
♦ Hokela **Ketsahalo ya 7** ho Phoustara ya 8 mme ka bokgutshwanyane le buisane ka dibopeho.
♦ Hlalosa lereo lena 'tlwaetso'.

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)

Facilitator's notes

♦ PPT: Symmetrical and non-symmetrical shapes and objects. Refer to pages 188–191 of the *Concept Guide*.

♦ Remind participants about the **practice principle** and that learners need many opportunities to practise new skills and apply them in different contexts.

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.

Dinoutso tsa motsamaisi

♦ PPT: Dibopeho le dintho tse nang le molahare le tse se nang molahare. Sheba ho maqephe a 188–191 a *Tataiso ya Mareo*.

♦ Hopotsa bankakarolo ka **ntlhatheo ya boikwetliso** le hore baithuti ba hloka menyetla e mengata ho ikwetlisetsa bokgoni bo botjha le ho bo sebedisa maemong a fapaneng.

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?	Space and Shape (Geometry)	Space and Shape (Geometry)	Space and Shape (Geometry)
What are the key concepts that learners will be learning?	Properties of 3-D objects Spatial concepts: in and out Big and small	Properties of 2-D shapes (circle) Symmetry	Properties of 2-D shapes (square) Backwards, forwards Inside, outside
What new knowledge is introduced?	Counting objects 1–5 Properties of boxes and balls Objects that roll or slide Position: in and out Big and small Biggest and smallest	Circle Symmetry Number 2	2-D shape: square Direction: forwards and backwards Position: inside and outside
What skills are being practised?	Oral counting 1–5 Reinforce number 1 Sorting	Oral counting 1–5 Number 1 Counting objects 1–5	Circle Number concept 1 and 2 Oral counting 1–5 Counting objects 1–5

Karolo ya 3: Ho etsa moralo bakeng sa ho ruta

Dihora tse 2

Dinoutso tsa motsamaisi
♦ Romela bankakarolo ho Sehlomathiso A: Kotara ya 1 Kakaretso ya Dikahare tsa Beke le Beke (Dibeke tsa 3–5).
♦ Bala dikarolo tsa diketsahalo tsa tlelase yohle, tse tataiswang ke titjhere le tsa diteisheneng tsa tshebetso.
♦ Ere bankakarolo ba sebetse ka dihlopha ho phethela **Ketsahalo ya 8**.

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

Sehlomathiso 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 Sehlomathiso 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?	Sebaka le Sebopeho (Jeometri)	Sebaka le Sebopeho (Jeometri)	Sebaka le Sebopeho (Jeometri)
Mareo a sehlooho ke afe ao baithuti ba tla beng ba ithuta ona?	Makgetha a dintho tsa 3-D Mareo a sebaka: ka hare le ka ntle Kgolo le nyane	Makgetha a dibopeho tsa 2-D (sedikadikwe) Molahare	Makgetha a dibopeho tsa 2-D (kgutlonnetsepa) Morao, pele Kahara, ka ntle ho
Ke tsebo efe e ntjha e tla tsebiswa?	Ho bala dintho 1–5 Makgetha a dibolo le mabokoso Dintho tse thetehang kapa tse thellang Boemo: ka hare le ka ntle Kgolo le nyane Kgolo ka ho fetisisa le nyane ka ho fetisisa	Sedikadikwe Molahare Nomoro ya 2	Dibopeho tsa 2-D: kgutlonnetsepa Tshupiso: pele le morao Boemo: kahara le ka ntle ho
Ke bokgoni bofe bo ikwetliswang?	Ho bala ka molomo 1–5 Hatella 1 Ho hlophisa ho ya ka boholo	Ho bala ka molomo 1–5 Nomoro ya 1 Ho bala dintho 1–5	Sedikadikwe Dikgopolo tsa dinomoro 1 le 2 Ho bala ka molomo 1–5 Ho bala dintho 1–5

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Activity Guide: Term 1: Weeks 3, 4 and 5 (60 minutes)

📹 Video 3

Activity Guide: Term 1, Week 5, Day 3 #4 (page 90)

Watch the video of learners discussing a poster.

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

_____
_____
_____

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

_____
_____
_____

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

👥 Activity 9

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

👁 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.

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.

_____

_____

_____

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

_____

_____

_____

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.

👁 Hopola hore tekanyetso ya Kereiti ya R ke e sa hlophiswang mme ke e tswellang. 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.

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)

Facilitator's notes

♦ **Lessons learnt:** Ask participants to think about what they have learnt during the workshop and to complete **Activity 10** individually.

♦ **Take back to school task:** Read through this task. Ask if there is anything that is not clear and that requires more explanation.

♦ **Evaluation:** Hand out copies of the Workshop Evaluation Form and have participants complete the form.

♦ **Next workshop:** Give dates for the next workshop and close the workshop.

Activity 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

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)

Dinoutso tsa motsamaisi
♦ **Thuto e ithutilweng:** Ere bankakarolo ba nahane ka seo ba ithutileng sona nakong ya wekshopo mme ba phethele **Ketsahalo ya 10** ka bomong.
♦ **Mosebetsi wa kgutlela le yona sekolong:** Bala mosebetsi ona. Botsa hore ebe ho na le ho sa hlakang le ho hlokang tlhaloso e fetang.
♦ **Tlhahlobo:** Fana ka dikhopi tsa Foromo ya Tlhahlobo ya Wekshopo mme o re bankakarolo ba tlatse foromo eo.
♦ **Wekshopo e latelang:** Fana ka matsatsi bakeng sa wekshopo e latelang mme o kwale wekshopo.

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

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❗ 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.

❶ 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

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

SEHLOMATHISO A: KOTARA YA 1 KAKARETSO YA DIKAHARE TSA BEKE LE BEKE (DIBEKE TSA 3–5)

Kotara ya 1: Moralo wa Ketsahalo

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

Week 5				
CONTENT AREA: SPACE AND SHAPE (GEOMETRY)				
TOPIC: Recognise, identify and name 2-D shapes (square); compare 3-D objects and 2-D shapes (box and square); direction: forwards/backwards; position: inside/outside				
INTRODUCE NEW KNOWLEDGE: Square, directionality (forwards/backwards), position (inside/outside)				
PRACTISE: Circle, oral counting 1–5, counting objects 1–5, number concept 1 and 2				
Whole class activities		**Teacher-guided activity**	**Workstation activities**	
Day 1	Introduce the square (vocabulary).	Oral counting/matching dot, number cards 1 and 2. Touch counting Unifix blocks, build Unifix towers. Properties of a box and a square. Feely bag (boxes and balls). 2-D square activity – tracing around a box. Position (inside/outside).	**Activity 1**	Playdough with circle and square cookie cutter to make model.
Day 2	Properties of the square; difference between circle and square.		**Activity 2**	Cut out squares and paste to make a picture.
Day 3	Word problem (*Poster Book*) – square; find squares in the class.		**Activity 3**	Sorting square-shaped and circle-shaped objects.
Day 4	Directionality (forwards and backwards).		**Activity 4**	Puzzles (minimum six pieces).
Day 5	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.	**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.	Thetsa diboloko tsa ho bala tsa *Unifix*, aha ditora tsa *Unifix*.	**Ketsahalo ya 2** Seha o ntshe dikgutlonnetsepa mme o di manamise ho etsa setshwantsho.
Letsatsi la 3 Dipalo tsa mantswe (*Buka ya Diphoustara*) – kgutlonnetsepa; batla dikgutlonnetsepa ka tlelaseng.	Makgetha a lebokoso le a kgutlonnetsepa. Mokotlana o phopholetswang (mabokoso le dibolo).	**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 kgutlonnetsepa ya 2-D – ho tereisa ho potoloha lebokoso.	**Ketsahalo ya 4** Diphazele (bonyane dikotwana tse tsheletseng).
Letsatsi la 5 Etsa dipaterone ka dikgutlonnetsepa, mebala.	Boemo (kahare/kantle).	

Workshop 2 Evaluation Form

1. Did the workshop meet your expectations?

_____
_____
_____
_____

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

_____
_____
_____
_____

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

_____
_____
_____
_____

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

_____
_____
_____
_____

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

_____
_____
_____
_____

Foromo ya Tlhahlobo ya Wekshopo ya 2

1. Na wekshopo ena e fihletse ditebello tsa hao?

    _____
    _____
    _____
    _____

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

    _____
    _____
    _____
    _____

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

    _____
    _____
    _____
    _____

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

    _____
    _____
    _____
    _____

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

    _____
    _____
    _____
    _____