

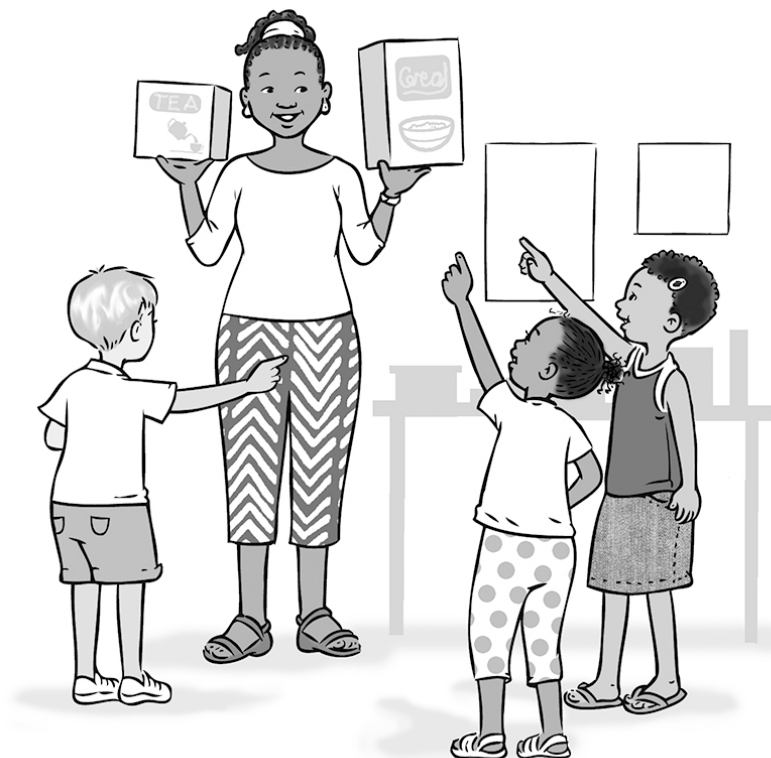


**GAUTENG PROVINCE**  
EDUCATION  
REPUBLIC OF SOUTH AFRICA

**GGT 2030**  
GROWING GAUTENG TOGETHER

Sesotho/English

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



**Wekshopo ya 5 • Workshop 5**  
**Buka ya Mosebetsi ya Monkararolo • 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**.

The development and production of the training and classroom resources for the Grade R Mathematics and Language Improvement Project were made possible by generous project funding from the **United States Agency for International Development** and the **Zenex Foundation**.

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.

## ACKNOWLEDGEMENTS

Special thanks to:

- The Gauteng Department of Education Curriculum, Teacher Education and Special Education Directorate officials for their contribution to the adaptation of our materials.
- The Western Cape Education Department (WCED) officials and teachers for their contribution to the successful implementation of the Grade R Mathematics Programme (R-Maths) in the Western Cape between 2016 and 2019.
- The R-Maths writing team: SDU staff and consultants.



The Grade R Mathematics Improvement Programme is adapted from *R-Maths*, first published in 2017 by the Schools Development Unit, University of Cape Town. Copyright of *R-Maths* is held by the University of Cape Town.

The Grade R Mathematics Improvement Programme is licensed under a Creative Commons Attribution 4.0 International Licence [Attribution-NonCommercial-ShareAlike].



This licence allows re-users to distribute, remix, adapt, and build upon the material in any medium or format for non-commercial purposes only, and only so long as attribution is given to the creator. If you remix, adapt, or build upon the material, you must license the modified material under identical terms. To view the full conditions for this licence, visit: <https://creativecommons.org/licenses/by-nc-sa/4.0/>

Programme conceptualisation and management: Cally Kuhne and Tholisa Matheza  
Translation and publishing project management: Arabella Koopman  
Translation co-ordination (Sotho languages): Lorato Trok  
Translation: Hilda Mohale  
Editing (Sesotho): Madikapi Mahlasela  
Illustrations: Jiggs Snaddon-Wood

Projeke ya Mmetse wa Kereiti ya R le Ntlatfatsong 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 Ntlatfatsong 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 Ntlatfatsong 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 Ntlatfatsong 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 dipuputso 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 ntlatfatsong 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.



Lenaneo le Ntlatfaditsweng la Mmetse la Kereite ya R le ntlatfaditswe 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.

Lenaneo le Ntlatfaditsweng la Mmetse la Kereite ya R le filwe laesense ka tlasa Creative Commons Attribution 4.0 International Licence [Attribution-NonCommercial-ShareAlike].



Laesense ena e fa basebedisi-hape tetla yah o aba, kopanya botjha, amahanya le maemo, le ho eketsa hodima disebediswa ka mofuta ofe le ofe kappa sebopeho sefe le sefe bakeng sa merero eo e seng ya kgwebo, hape le ha ho thwe moqaqi wa teng. Ha o kopanya botjha, o amahanya le maemo kapa o eketsa hodima disebediswa, o tlameha ho sebedisa laesense ya mantswe a tshwanang bakeng sa disebediswa tse fetotsweng. Bakeng sa ho sheba maemo a felletseng bakeng sa laesense ena, etela: <https://creativecommons.org/licenses/by-nc-sa/4.0/>

Popo le tsamaiso ya lenaneo: Cally Kuhne le Tholisa Matheza  
Tsamaiso ya projeke ya phetolelo le phatlalatsong: Arabella Koopman  
Kgokahanyo ya diphetolelo (dipuo tsa Sesotho): Lorato Trok  
Phetolelo: Hilda Mohale  
Ho hlophisa: Madikapi Mahlasela  
Ditshwantsho: Jiggs Snaddon-Wood

# Contents

## Overview

Purpose .....	page 6
Learning outcomes .....	page 6
Workshop content .....	page 6

## Workshop content

Opening and reflection .....	page 8
Session 1: Space and Shape (Geometry) .....	page 12
Session 2: Numbers, Operations and Relationships .....	page 18
Session 3: Patterns, Functions and Algebra .....	page 28
Session 4: Data Handling .....	page 32
Closing activities .....	page 38
Appendix A: Term 2 Weekly Content Summary (Weeks 4–7) .....	page 40
Workshop 5 Evaluation Form .....	page 44

# Dikahare

## Tjhebokakaretso

Sepheo .....	leqephe la 7
Diphetho tsa ho ithuta .....	leqephe la 7
Dikahare tsa wekshopo .....	leqephe la 7

## Dikahare tsa wekshopo

Pulo le boikgopotso .....	leqephe la 9
Karolo ya 1: Sebaka le Sebopeho (Jeometri) .....	leqephe la 13
Karolo ya 2: Dinomoro, Matshwao le Dikamano .....	leqephe la 19
Karolo ya 3: Dipaterone, Ditshebetso le Aljebra .....	leqephe la 29
Karolo ya 4: Ho Sebetsa ka Datha .....	leqephe la 33
Diketsahalo tsa ho kwala .....	leqephe la 39

## Sehlomathiso A: Kotara ya 2 Kakaretso ya Dikahare tsa Beke le

beke (Dibeke tsa 4–7) .....	leqephe la 41
Foromo ya Tlhahlobo ya Wekshopo ya 5 .....	leqephe la 45

# Overview

## Purpose

This is the fifth 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 continue to implement the Maths Programme in their classrooms, to strengthen their understanding of teaching and learning in the Content Areas covered in Term 2 Weeks 4–7 and to reflect on how they are putting the guiding principles of teaching maths into practice in their classrooms.

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

## Learning outcomes

- ◆ To reflect on the implementation of Term 1 Week 10 and Term 2 Weeks 1–3
- ◆ To explore strategies to support teaching maths in Grade R
- ◆ To reflect on the Maths Programme’s guiding principles of teaching
- ◆ To engage with the Maths Programme content for Term 2 Weeks 4–7 (Space and Shape (Geometry); Numbers, Operations and Relationships; Patterns, Functions and Algebra; and Data Handling)
- ◆ To discuss appropriate observation and assessment in Grade R

## Workshop content

- ◆ Opening and reflection (1 hour)
- ◆ Session 1: Space and Shape (Geometry) (1 hour)
- TEA
- ◆ Session 2: Numbers, Operations and Relationships (1 hour)
- ◆ Session 3: Patterns, Functions and Algebra (1 hour)
- LUNCH
- ◆ Session 4: Data Handling (1 hour)
- ◆ Closing activities (1 hour)

# Tjhebokakaretso

## Sepheo

Ena ke ya bohloko ya diwekshopo tse leshome le metso e mmedi tsa Lenaneo le Ntlafaditsweng la Mmetse la Kereiti ya R, 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 matitjhare ho kenya tshebetsong Lenaneo la Mmetse ka diphaposing tsa bona tsa borutelo, ho matlafatsa kutlwisiso ya bona ya ho ruta le ho ithuta ho Dikarolo tsa Dikahare tse entsweng ho Kotara ya 2 Dibeke tsa 4–7 le ho ikgopotsa kamoo ba kenyang tshebetsong dintlhatheo tsa tataiso tsa ho ruta mmetse ka diphaposing tsa bona tsa borutelo.

Dintlha tse buang ka Dikarolo tsa Dikahare tsa Mmetse wa Kereiti ya R di nkilwe ho *Setatemente sa Leano la Kharikhulamo le Tekanyetso (SLKT): Mmetse wa Kereiti ya R (Moralo wa Moshwelella)*, 2011, Lefapha la Thuto ya Motheo, Afrika Borwa.

## Diphetho tsa ho ithuta

- ◆ Ho shebisisa ho kenya tshebetsong ha Kotara ya 1 Beke ya 10 le Kotara ya 2 Dibeke tsa 1–3
- ◆ Ho sibolla mawa a ho tshehetsa ho ruta mmetse Kereiting ya R
- ◆ Ho ikgopotsa dintlhatheo tsa tataiso tsa ho ruta tsa Lenaneo la Mmetse
- ◆ Ho sebitsana le dikahare tsa Lenaneo la Mmetse bakeng sa Kotara ya 2 Dibeke tsa 4–7 (Sebaka le Sebopeho (Jeometri); Dinomoro, Matshwao le Dikamano; Dipaterone, Ditshebetso le Aljebra; le Ho Sebetsa ka Datha)
- ◆ Ho buisana ka ditemoho le ditekanyetso tse loketseng Kereiting ya R

## Dikahare tsa wekshopo

- ◆ Pulo le boikgopotso (Hora e 1)
  - ◆ Karolo ya 1: Sebaka le Sebopeho (Jeometri) (Hora e 1)
- TEYE
- ◆ Karolo ya 2: Dinomoro, Matshwao le Dikamano (Hora e 1)
  - ◆ Karolo ya 3: Dipaterone, Ditshebetso le Aljebra (Hora e 1)
- DIJO TSA MOTSHEARE
- ◆ Karolo ya 4: Ho Sebetsa ka Datha (Hora e 1)
  - ◆ Diketsahalo tsa ho kwala (Hora e 1)

# Opening and reflection

1 hour

The **inclusivity principle**: All learners should feel welcome, included and happy to participate. Remember to treat all learners fairly and with respect.

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



## Activity 1

Discuss your progress in implementing the *Take back to school* task from Workshop 4.

1. What progress in maths did you observe in your learners after implementing Term 1?

---

---

---

2. How did the information in the 'Check that learners are able to' in *Activity Guide: Term 1* assist you in assessing each learner's progress in Term 1?

---

---

---

3. Did you successfully record each learner's progress using 'Term 1: Exemplar Record of Continuous Assessments' on pages 190–193 of *Activity Guide: Term 1*?

---

---

---



**Ntlhatheo ya kenyeletso:** Baithuti bohle ba lokela ho ikutlwa ba amohelehile, ba kenyeleditswe mme ba thabetse ho nka seabo. Hopola ho tshwara baithuti bohle ka tsela e se nang leeme le ka tlhomphe.

Ikgopotseng ka ho kenya tshebetsong ha lona ha Lenaneo la Mmetse lenaneong la lona la letsatsi le letsatsi mme le phethele ketsahalo e latelang.



## Ketsahalo ya 1

Buisanang ka kgatelepele ya lona mabapi le ho kenya tshebetsong mosebetsi wa *Kgutlela le yona sekolong* ho tswa ho Wekshopo ya 4.

1. Le lemohile kgatelepele efe ho mmetse baithuting ba lona kamora ho kenya tshebetsong Kotara ya 1?

---

---

---

2. Tlhahisoleseding e ho 'Lekola hore baithuti ba kgona ho' ho *Tataiso ya Diketsahalo: Kotara ya 1* e le thusitse jwang ho lekola kgatelepele ya moithuti ka mong ho Kotara ya 1?

---

---

---

3. Na le rekotile ka katleho kgatelepele ya moithuti ka mong le sebedisa 'Kotara ya 1: Rekoto ya Mohlala ya Tekanyetso e Tswelang' maqepheng a 190–193 a *Tataiso ya Diketsahalo: Kotara ya 1*?

---

---

---



### Video 1

Watch the video of the teacher discussing observation and assessment in her Grade R classroom.

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.

---

---

---



### Activity 2

In your small groups, discuss:

1. How you are managing assessment in your classroom.
2. How you use rubrics in your assessment process.
3. How you incorporate the School Based Assessments (SBA) and SA-SAMS online system as part of your assessment process.

Write down the main points of your discussion to share with the whole group. Consider what works well and where you have challenges with assessment.

---

---

---

---

The **level principle**: Some learners may need more practice and support than other learners. Be sure to allow learners enough time and support to complete activities, to think and to answer questions.



## Video ya 1

Shebellang video ya titjhere a buisana ka temoho le tekanyetso phaposing ya hae ya borutelo ya Kereiti ya R.

O nahana hore sepheo sa ketsahalo ena ke sefe? Shebisisa ka ho qolleha kamoo titjhere a susumetsang baithuti ho bua ka ho ba botsa dipotso le kamoo a shebellang moithuti ka mong.

---

---

---



## Ketsahalo ya 2

Dihlotshwaneng tsa lona, buisanang ka:

1. Kamoo le tsamaisang tekanyetso ka phaposing ya lona ya borutelo.
2. Kamoo le sebedisang diruburiki mokgwatsamaisong wa lona wa tekanyetso.
3. Kamoo le kenyeletsang sistimi ya inthanete ya School Based Assessments (SBA) le SA-SAMS jwaloka karolo ya mokgwatsamaiso wa lona wa tekanyetso.

Ngolang dintlha tsa sehlooho tsa puisano ya lona ho abelana le sehlopha sohle. Hlokomelang tse sebetsang hantle le moo le kopanang le mathata a tekanyetso.

---

---

---

---

**Ntlhatheo ya mekgahlelo:** Baithuti ba bang ba ka hloka kwetliso le tshehetso ho feta baithuti ba bang. Netefatsa hore o dumella baithuti ho ba le nako le tshehetso e lekaneng bakeng sa ho phethela diketsahalo, ho nahana le ho araba dipotso.

# Session 1: Space and Shape (Geometry)

1 hour

## Term 2 Content overview: Space and Shape (Geometry)

This session focuses on teaching the content of Term 2 Week 4 – Space and Shape (Geometry). Remember that Space and Shape (Geometry) was also the focus of Week 3 which we covered in Workshop 4.

Read the content overview for Space and Shape (Geometry) on pages 126–131 of the *Concept Guide* and complete Activity 3.



### Activity 3

What Space and Shape concepts are presented in 3.1 and 3.2 of the content overview?

---

---

---

In Grade R learners describe, sort and compare 3-D objects and focus on the similarities and differences between them. In Term 2 Week 4 learners sort, compare and describe 3-D objects according to size, colour and shape. They also look at and describe objects in relation to themselves and each other and from different positions (orientation and views). Another focus in Week 4 is on following directions and using vocabulary associated with position.



### Activity 4

1. Discuss how you could use objects in your classroom to encourage learners to talk about their position in relation to the objects they are looking at.

---

---

---

---

# Karolo ya 1: Sebaka le Sebopeho (Jeometri) Hora e 1

## Kotara ya 2 Tjhebokakaretso ya dikahare: Sebaka le Sebopeho (Jeometri)

Karolo ena e tsepame ho ho ruta dikahare tsa Kotara ya 2 Beke ya 4 – Sebaka le Sebopeho (Jeometri). Hopola hore Sebaka le Sebopeho (Jeometri) le yona e ne e le tsepamiso ya Beke ya 3 eo re e entseng ho Wekshopo ya 4.

Bala tjhebokakaretso ya dikahare bakeng sa Sebaka le Sebopeho (Jeometri) ho maqephe a 126–131 a *Tataiso ya Mareo* mme le phethele Ketsahalo ya 3.



### Ketsahalo ya 3

Ke mareo afe a Sebaka le Sebopeho a bontshitsweng ho 3.1 le 3.2 ya tjhebokakaretso ya dikahare?

---

---

---

Kereiting ya R baithuti ba hlalosa, ba hlophisa le ho bapisa dintho tsa 3-D mme ba tsepamisa maikutlo a bona ho ditshwano di diphapane pakeng tsa tsona. Ho Kotara ya 2 Beke ya 4 baithuti ba hlophisa, ba bapisa le ho hlalosa dintho tsa 3-D ho ya ka boholo, mmala le sebopeho. Hape ba sheba le ho hlalosa dintho papisong le bona mmoho le ba bang le ho di sheba ho tswa maemong a fapaneng (tlwaetso le ditjhebo). Tsepamiso e nngwe e ho Beke ya 4 e ho ditshupiso tse latelang le ho sebedisa tlotlontswe e tsamaelanang le boemo



### Ketsahalo ya 4

1. Buisanang kamoo le ka sebedisang dintho tse ka phaposing ya borutelo ho kgothaletsa baithuti ho bua ka boemo ba bona kamanong le dintho tse ding tseo ba di shebileng.

---

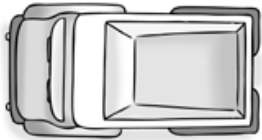
---

---

---

---

2. Look at the pictures. Describe where you would stand in order to see each of the views of the truck.



---

---

### Term 2 Week 4

Refer to the teacher-guided activity on pages 80–83 of *Activity Guide: Term 2*.



#### Activity 5

1. Which Space and Shape concepts are presented?

---

---

---

---

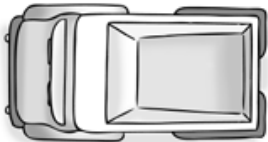
2. Give examples of guiding questions that are asked in the teacher-guided activities. Will these questions encourage learners to talk about the concepts in question 1?

---

---

---

2. Shebang ditshwantsho. Hlalosang moo le ka emang e le hore le bone e nngwe le e nngwe ya ditjhebo tsa lori.



---

---

### Kotara ya 2 Beke ya 4

Shebang ho ketsahalo e tataiswang ke titjhere ho maqephe a 80–83 a *Tataiso ya Diketsahalo: Kotara ya 2*.



### Ketsahalo ya 5

1. Ke mareo afe a Sebaka le Sebopeho a bontshwang?

---

---

---

---

---

2. Fana ka mehlala ya dipotso tse tataisang tse botswang diketsahalong tse tataiswang ke titjhere. Na dipotso tsena di tla kgothaletsa baithuti ho bua ka mareo a ho potso ya 1?

---

---

---

Learners need many opportunities to play with and sort collections of 3-D objects. Teachers need to understand the underlying concepts in Space and Shape (Geometry) and communicate these using the correct maths language.

The following points should be remembered.

- ◆ An object is three-dimensional (3-D). You can look at it from the top, the bottom and the sides. 3-D objects have length, breadth (width) and height.
- ◆ A shape is two-dimensional (2-D). Shapes include circles, triangles, squares and rectangles. They have length and breadth (width).
- ◆ As learners explore the properties of 3-D objects they will identify objects that 'look like' 2-D shapes, e.g. the door looks like a rectangle, the road sign looks like a triangle, the plate looks like a circle. They will start to understand that the surfaces of 3-D objects look like 2-D shapes.

The **interaction principle**: Learning involves communication and the sharing of ideas. Responding in an appropriate way to something is a very important part of communication and of teaching and learning. Always listen to learners when they share their ideas or respond to your questions.

## Term 2 Content Summary (Week 4)



### Activity 6

Refer to Appendix A: Term 2 Weekly Content Summary (Weeks 4–7). Read the content overview for Week 4: Space and Shape (Geometry) on page 10 of *Activity Guide: Term 2*.

1. What are the topics for Week 4?

---

---

2. What new knowledge is introduced in this week?

---

---

---

3. What skills from previous weeks are practised?

---

---

---



Baithuti ba hloka menyetla e mengata ho bapala ka dintho tsa 3-D le ho hlophisa dipokello tsa tsona. Matitjhere a lokela ho utlwisisa mareo a motheo ho Sebaka le Sebopeho (Jeometri) mme ba buisane ka ona ba sebedisa puo e nepahetseng ya mmetse.

Dintlha tse latelang di lokela ho hopolwa.

- ◆ Ntho e mahlakore a mararo (3-D). O ka e sheba ho tswa ka hodimo, tlase le ka mahlakoreng. Dintho tsa 3-D di na le bolelele, bophara (bobatsi) le bophahamo.
- ◆ Sebopeho se mahlakore a mabedi (2-D). Dibopeho di kenyeletsa didikadikwe, dikgutlotharo, dikgutlonnetsepa le dikgutlonne. Di na le bolelele le bophara (bobatsi).
- ◆ Ha baithuti ba ntse ba sibolla makgetha a dintho tsa 3-D ba tla hlwaya dintho tse 'shebehang jwaloka' dibopeho tsa 2-D, mohl. lemati le tshwana le kgutlonne, letshwao la tsela le tshwana le kgutlotharo, poleiti e tshwana le sedikadikwe. Ba tla qala ho utlwisisa hore bokahodimo ba dintho tsa 3-D bo shebeha jwaloka dibopeho tsa 2-D.

**Ntlhatheo ya kgokahano:** Ho ithuta ho kenyeletsa kgokahano le ho abelana ka mehopolo. Ho arabela ka tsela e nepahetseng nthong e itseng ke karolo ya bohlokwa ya kgokahano le ya ho ruta le ho ithuta. Kamehla mamela baithuti ha ba bua ka mehopolo ya bona kapa ba araba dipotso tsa hao.

## Kotara ya 2 Kakaretso ya Dikahare (Beke ya 4)



### Ketsahalo ya 6

Sheba ho Sehlomathiso A: Kotara ya 2 Kakaretso ya Dikahare tsa Beke le beke (Dibeke tsa 4–7). Bala tjhebokakaretso ya dikahare bakeng sa Beke ya 4: Sebaka le Sebopeho (Jeometri) leqepheng la 10 la *Tataiso ya Diketsahalo: Kotara ya 2*.

1. Dihlooho tsa Beke ya 4 ke dife?

---

---

2. Ke tsebo e ntjha efe e tsebiswang bekeng ena?

---

---

---

3. Ke bokgoni bofe ho tswa dibekeng tse fetileng bo sebediswang?

---

---

---

# Session 2: Numbers, Operations and Relationships

1 hour

The focus of Term 2 Week 5 is Numbers, Operations and Relationships.

## Term 2 Content overview: Numbers, Operations and Relationships

Previous workshops have presented the Content Area Focus: Numbers, Operations and Relationships. In this session we look at the Term 1–4 content overview (*Concept Guide*, pages 114–123) again.



### Activity 7

What new numbers are introduced in Term 2?

---

## Term 2 Week 5: Teaching number

The number ‘five’ is introduced in Term 2 Week 5. The Maths Programme encourages the use of numbers in different situations and the use of multiple representations, e.g. a symbol, a word, a picture, dot cards, counters, claps. The routine used for introducing each number engages learners in a routine that is familiar, predictable, fun and presents the number in different ways.



### Activity 8

Refer to the Week 5 whole class activities in *Activity Guide: Term 2* (pages 90–99). Describe the routine that is used to teach the number ‘5’.

Day 1

---

---

---

---

Day 2

---

---

---

---

# Karolo ya 2: Dinomoro, Matshwao le Dikamano

Hora e 1

Tsepamiso ya Kotara ya 2 Beke ya 5 ke Dinomoro, Matshwao le Dikamano.

## Kotara ya 2 Tjhebokakaretso ya dikahare: Dinomoro, Matshwao le Dikamano

Diwekshopo tse fetileng di bontshitse Tsepamiso ya Karolo ya Dikahare: Dinomoro, Matshwao le Dikamano. Karolong ena re sheba tjhebokakaretso ya dikahare tsa Kotara ya 1-4 (*Tataiso ya Mareo*, maqephe a 114-123) hape.



### Ketsahalo ya 7

Ke dinomoro dife tse ntjha tse tsebiswang ho Kotara ya 2?

---

## Kotara ya 2 Beke ya 5: Ho ruta nomoro

Nomoro ya 'hlano' e tsebiswa ho Kotara ya 2 Beke ya 5. Lenaneo la Mmetse le kgothaletsa tshebediso ya dinomoro maamong a fapaneng le tshebediso ya dikemelo tse ngata, mohl. letshwao, lentswe, setshwantsho, dikarete tsa matheba, dibadi, ho opa matsoho. Tsela ya tlwaelo e sebediswang bakeng sa ho tsebisa nomoro ka nngwe e kenyeletsa baithuti ho mokgwa wa tlwaelo o tlwaelehileng, o lebelletsweng, o thabisang mme e hlahisa nomoro ka ditsela tse fapaneng.



### Ketsahalo ya 8

Shebang ho Beke ya 5 ho diketsahalo tsa tlelase yohle ho *Tataiso ya Diketsahalo: Kotara ya 2* (maqephe a 90-99).

Hlalosa mokgwatlwaelo o sebediswang bakeng sa ho ruta nomoro ya '5'.

Letsatsi la 1

---

---

---

---

Letsatsi la 2

---

---

---

---

Day 3

---

---

---

---

Day 4

---

---

---

---

Day 5

---

---

---

---

### **The number washing line**

The numbers 1 to 5 were pegged onto the number washing line in the maths area as they were introduced in Term 1. It is only in Week 5 that learners actively engage with the number washing line. Many teachers put up number lines from 0 to 10 or even to 20 in the classroom before learners are able to count or recognise these numbers.

Initially the Maths Programme's focus on the number washing line is incidental. From Week 5 it is used to focus on sequencing (ordering) numbers and talking about the relationship between numbers.

Use the number washing line to:

- ◆ order and compare numbers e.g.:
  - What number comes before 3?
  - What number is between 3 and 5?
  - What number comes after 4?
- ◆ explore how numbers increase from left to right, and decrease from right to left.
- ◆ use maths language such as *before*, *after*, *between*.

In the video the facilitator demonstrates a washing line activity that supports the teaching of number.

Read the activity that introduces the washing line to learners on page 94 of *Activity Guide: Term 2*.

Letsatsi la 3

---

---

---

---

Letsatsi la 4

---

---

---

---

Letsatsi la 5

---

---

---

---

### **Mola wa ho aneha dinomoro**

Dinomoro tsa 1 ho isa ho 5 di ne di hakisitswe ka diphekse moleng wa ho aneha dinomoro ho karolo ya mmetse ha di ntse di tsebiswa ho Kotara ya 1. Ke ho Beke ya 5 feela moo baithuti ba kopanang ka mahlahlaha le mola wa ho aneha dinomoro. Matitjhere a mangata a etsa melapalo ya ho tloha ho 0 ho isa ho 10 kapa esitana le ho fihla ho 20 ka phaposing ya borutelo pele baithuti ba kgona le ho bala kapa ho lemoha dinomoro tsena.

Qalong tsepamiso ya Lenaneo la Mmetse ho mola wa ho aneha dinomoro e etsahala ka tshohanyetso. Ho tloha ho Beke ya 5 e sebedisetswa ho tsepamisa maikutlo ho tlhahlamanyo (tatelano) ya dinomoro le ho bua ka kamano pakeng tsa dinomoro.

Sebedisa mola wa ho aneha dinomoro ho:

- ◆ bea dinomoro ka tatelano le ho di bapisa mohl.:
  - Ke nomoro efe e tlang pele ho 3?
  - Ke nomoro efe e tlang pakeng tsa 3 le 5?
  - Ke nomoro efe e tlang kamora 4?
- ◆ sibolla kamoo dinomoro di eketsehang ho tloha ho le letshehadi ho isa ho le letona, di fokotsehang ho tloha ho le letona ho isa ho le letshehadi.
- ◆ sebedisa puo ya mmetse e jwaloka *pele ho, kamora, pakeng tsa*.

Videong motsamaisi o bontsha ketsahalo ya mola wa ho aneha e tshehetsang ho ruta nomoro.

Bala ketsahalo e tsebisang mola wa ho aneha ho baithuti leqephe la 95 la *Tataiso ya Diketsahalo: Kotara ya 2*.

 **Video 2**

Watch the video of the teacher using the number washing line to order the numbers 1 to 5. Notice how she scaffolds the activity and note the questions that she asks to prompt the learners.

Discuss the value of using a number washing line in Grade R.

---

---

---

---

**Sequencing numbers:** Learners place the numbers in the correct counting order. Learners see the number line each day and during incidental discussions talk about each number.

**Order:** Learners discuss the numbers in relation to each other. The teachers asks which number comes before, after or between other numbers. Learners use correct maths language to describe the position of the numbers in relation to each other.

### Structure beads

The structure beads in your *Resource Kit* come in lengths of 10 beads grouped in fives, according to colour (five red beads and five yellow beads).

Structure beads help learners to:

- ◆ automatically recognise the number of beads in a group without counting, e.g. '4'.
- ◆ understand that one number may be a combination of two or more other numbers, e.g. '4' is made up of 2 and 2 or 1 and 3.
- ◆ develop skills in counting on from a given number, e.g. start at 3 and count on to 5.
- ◆ begin to work with addition and subtraction.
- ◆ begin to work with bonds of ten.

In this next activity, use your 10 structure beads to explore different number combinations. Follow your facilitator's lead and respond to the questions as set out in Activity 9.



## Video ya 2

Shebellang video ya titjhere ya sebedisang mola wa ho aneha dinomoro ho bea dinomoro ka tatelano 1 ho isa ho 5. Lemoha kamoo a tshehetsang baithuti mme o lemohe dipotso tseo a ba botsang tsona ho kgothaletsa baithuti ho bua.

Buisanang ka bohlokwa ba ho sebedisa mola wa ho aneha dinomoro Kereiting ya R.

---

---

---

---

**Ho hlahlamanya dinomoro:** Baithuti ba bea dinomoro ka tatelano e nepahetseng ya ho bala. Baithuti ba bona molapalo letsatsi ka leng mme nakong ya dipuisano tsa tshohanyetso ba bua ka nomoro ka nngwe.

**Tatelano:** Baithuti ba buisana ka dinomoro ho ya kamoo di amanang ka teng. Matitjhere a botsa hore ke nomoro efe e tlang pele, kamora kapa pakeng tsa dinomoro tse ding. Baithuti ba sebedisa puo e nepahetseng ya mmetse ho hlalosa boemo ba dinomoro kamanong le dinomoro tse ding.

## Difaha tsa sebopeho

Difaha tsa sebopeho tse ka hara *Khiti ya Disebediswa* di tla ka bolelele ba difaha tse 10 tse beilweng ka dihlopha tsa tse hlano, ho ya ka mebala (difaha tse hlano tse kgubedu le difaha tse hlano tse tshehla).

Difaha tsa sebopeho di thusa baithuti ho:

- ◆ eellwa ka bobona lenane la difaha tse sehlopheng se itseng ntle le ho di bala, mohl. '4'.
- ◆ utlwisisa hore nomoro e le nngwe e ka nna ya eba motswako wa dinomoro tse pedi kapa ho feta, mohl. '4' e etswa ke 2 le 2 kapa 1 le 3.
- ◆ ikahela bokgoni ba ho bala dintho ho tswela pele ho tloha ho nomoro eo ba e filweng, mohl. qala ho 3 mme o bale ho fihlela ho 5.
- ◆ qala ho sebetsa ka ho kopanya le ho tlosa.
- ◆ qala ho sebetsa ka metswako ya leshome.

Ketsahalong ena e latelang, sebedisa difaha tsa sebopeho tse 10 ho sibolla metswako e fapaneng ya dinomoro. Latela tataiso ya motsamaisi wa hao mme o arabe dipotso jwaloka ha di hlahella ho Ketsahalo ya 9.



### Activity 9

1. Show me two beads.
2. Show me one more bead.
3. Show me one fewer than four beads.
4. Show me four beads. Now show me one more than four. How many do you have?
5. What did you do to make it one more?
6. Show me one fewer than five. How many do you have?
7. What did you do to make it one less?
8. Now take one away. How many do you have?
9. Add one. How many do you have?

Read the activity that introduces the structure beads to learners on page 100 of *Activity Guide: Term 2*, step 3. In groups, discuss this activity.



### Activity 10

How does this structure bead activity help to develop the learners' number sense?

---

---

---

---

---

---

---

---

---

---

---

The **practice principle**: Learners should have plenty of time to practise new skills and knowledge. When learners get regular practice in what they have already learnt, they get better at it and become more confident. They enjoy repetition and practice.





### Ketsahalo ya 9

1. Mpontshe difaha tse pedi.
2. Mpontshe sefaha se seng se le seng.
3. Mpontshe difaha tse mmalwa ho feta nne ka sefaha se le seng.
4. Mpontshe difaha tse nne. Jwale mpontshe difaha tse fetang nne ka se le seng. O na le tse kae?
5. O entse jwang ho etsa hore di be ngata ka se le seng?
6. Mpontshe tse mmalwa ho hlano ka se le seng. O se o ena le tse kae?
7. O entse jwang hore di be mmalwa ka se le seng?
8. Jwale tlosa se le seng. O se o ena le tse kae?
9. Eketsa se le seng. O na le tse kae?

Bala ketsahalo e tsebisang difaha tsa sebopelo ho baithuti leqepheng la 101 la *Tataiso ya Diketsahalo: Kotara ya 2*, mohato wa 3. Ka dihlotshwana, buisanang ka ketsahalo ena.



### Ketsahalo ya 10

Ketsahalo ena ya difaha tsa sebopelo e thusa jwang ho aha kutlwisiso ya moithuti ya dinomoro?

---

---

---

---

---

---

---

---

---

---

**Ntlhatheo ya boikwetliso:** Baithuti ba lokela ho ba le nako e ngata ho ikwetlisa ka bokgoni le tsebo tse ntjha. Ha baithuti ba ikwetlisa kgafetsa ka seo ba seng ba ithutile sona, ba a ntlafala ho sona mme ba be le boitshepo bo fetang. Ba natefelwa ke phetapheto le boikwetliso.

## Term 2 Content Summary (Week 5)



### Activity 11

Refer to Appendix A: Term 2 Weekly Content Summary (Weeks 4–7). Read the content overview for Week 5: Numbers, Operations and Relationships on page 18 of *Activity Guide: Term 2*.

1. What are the topics for Week 5?

---

---

2. What new knowledge is introduced in this week?

---

---

---

3. What skills from previous weeks are practised?

---

---

---

4. Match the activities in Appendix A: Term 2 Weekly Content Summary (Weeks 4–7) with the lessons in each week.

## Kotara ya 2 Kakaretso ya Dikahare (Beke ya 5)



### Ketsahalo ya 11

Sheba ho Sehloathiso A: Kotara ya 2 Kakaretso ya Dikahare tsa Beke le beke (Dibeke tsa 4–7). Bala tšhebokakaretso ya dikahare bakeng sa Beke ya 5: Dinomoro, Matshwao le Dikamano leqephe la 19 la *Tataiso ya Diketsahalo: Kotara ya 2*.

1. Dihlooho tsa Beke ya 5 ke dife?

---

---

2. Ke tsebo efe e ntjha e tsebiswang bekeng ena?

---

---

---

3. Ke bokgoni bofe ho tswa dibekeng tse fetileng bo sebediswang?

---

---

---

4. Nyalanya diketsahalo tse ho Sehloathiso A: Kotara ya 2 Kakaretso ya Dikahare tsa Beke le beke (Dibeke tsa 4–7) mmoho le dithuto tsa beke ka nngwe.

# Session 3: Patterns, Functions and Algebra 1 hour

The focus of Term 2 Week 6 is Patterns, Functions and Algebra.

## Term 2 Content overview: Patterns, Functions and Algebra

Refer to Patterns, Functions and Algebra in the content overview (*Concept Guide*, page 124).



### Activity 12

1. What concepts are covered in Term 2?

---

---

---

2. What are the differences between the Maths Programme content and the CAPS content?

---

---

---

## Term 2 Week 6: Describe, copy and extend patterns

In Workshop 3, the focus of Patterns, Functions and Algebra was on recognising/identifying the repeat in a pattern. We also discussed the difference between a sequence and a pattern. Term 2 Week 6 builds on the content introduced in Term 1 Week 6.

In Term 2 Week 6 learners:

- ◆ describe the repeat in patterns using objects, pictures and sounds.
- ◆ copy patterns that others have made with objects, pictures and sounds.
- ◆ extend patterns that others have made.
- ◆ create their own patterns at various levels of difficulty such as:
  - circle, square; circle, square
  - circle, square, triangle; circle, square, triangle
  - circle, circle, square; circle, circle, square
  - red circle, blue circle, yellow square; red circle, blue circle, yellow square.
- ◆ tell what is missing when part of a pattern is hidden.

# Karolo ya 3: Dipaterone, Ditshebetso le Algebra

Hora e 1

Tsepamiso ya Kotara ya 2 Beke ya 6 ke Dipaterone, Ditshebetso le Algebra.

## Kotara ya 2 Tjhebokakaretso ya dikahare: Dipaterone, Ditshebetso le Algebra

Shebang ho Dipaterone, Ditshebetso le Algebra ho tjhebokakaretso ya dikahare (*Tataiso ya Mareo*, leqephe la 125).



### Ketsahalo ya 12

1. Ke mareo afe a rutilweng ho Kotara ya 2?

---

---

---

2. Diphapang ke dife pakeng tsa dikahare tsa Lenaneo la Mmetse le dikahare tsa SLTK?

---

---

---

## Kotara ya 2 Beke ya 6: Hlalosa, kopolla le ho atolosa dipaterone

Ho Wekshopo ya 3, tsepamiso ya Dipaterone, Ditshebetso le Algebra e ne e le ho ho lemoha/hlwaya phetapheto pateroneng. Hape re ile ra buisana ka phapang pakeng tsa tatelano le paterone. Kotara ya 2 Beke ya 6 e ahella ho dikahare tse tsebisitsweng ho Kotara ya 1 Beke ya 6.

Ho Kotara ya 2 Beke ya 6 baithuti:

- ◆ ba hlalosa phetapheto dipateroneng ba sebedisa dintho, ditshwantsho le medumo.
- ◆ ba kopolla dipaterone tseo ba bang ba di entseng ka dintho, ditshwantsho le medumo.
- ◆ ba atolosa dipaterone tseo ba bang ba di entseng.
- ◆ ba bopa dipaterone tsa bona mekgahlelong e fapaneng ya bothata jwaloka:
  - sedikadikwe, kgutlonnetsepa; sedikadikwe, kgutlonnetsepa
  - sedikadikwe, kgutlonnetsepa, kgutlotharo; sedikadikwe, kgutlonnetsepa, kgutlotharo
  - sedikadikwe, sedikadikwe, kgutlonnetsepa; sedikadikwe, sedikadikwe, kgutlonnetsepa
  - sedikadikwe se sefubedu, sedikadikwe se bolou, kgutlonnetsepa e tshlehla; sedikadikwe se sefubedu, sedikadikwe se bolou, kgutlonnetsepa e tshlehla.
- ◆ bolela ho siyo ha karolo ya dipaterone e patwa.



### Activity 13

Refer to Week 6 in *Activity Guide: Term 2* (pages 104–119).

1. Discuss how the whole class activities present lessons on pattern.

---

---

---

2. Read steps 5 and 6 of the teacher-guided activity on page 116. How does the teacher scaffold the activities and guide the learners with questions?

---

---

---

## Term 2 Content Summary (Week 6)



### Activity 14

Refer to Appendix A: Term 2 Weekly Content Summary (Weeks 4–7). Read the content overview for Week 6: Patterns, Functions and Algebra on page 20 of *Activity Guide: Term 2*.

1. What are the topics for Week 6?

---

---

2. What new knowledge is introduced in this week?

---

---

---

3. What skills from previous weeks are practised?

---

---

---

4. Match the activities in Appendix A: Term 2 Weekly Content Summary (Weeks 4–7) with the lessons in each week.



### Ketsahalo ya 13

Shebang ho Beke ya 6 ho *Tataiso ya Diketsahalo: Kotara ya 2* (maqephe a 104–119).

1. Buisanang kamoo diketsahalo tsa tlelase yohle di fanang ka thuto mabapi le dipaterone.

---

---

---

2. Bala mehato ya 5 le ya 6 ya ketsahalo e tataiswang ke titjhere ho leqephe la 117. Titjhere o tshehetsa jwang diketsahalo le ho tataisa baithuti ka dipotso?

---

---

---

### Kotara ya 2 Kakaretso ya Dikahare (Beke ya 6)



### Ketsahalo ya 14

Shebang ho Sehlomathiso A: Kotara ya 2 Kakaretso ya Dikahare tsa Beke le beke (Dibeke tsa 4–7). Bala tjebokakaretso ya dikahare bakeng sa Beke ya 6: Dipaterone, Ditshebetso le Aljebra ho leqephe la 21 la *Tataiso ya Diketsahalo: Kotara ya 2*.

1. Dihlooho tsa Beke ya 6 ke dife?

---

---

2. Ke tsebo efe e ntjha e tsebiswang bekeng ena?

---

---

---

3. Ke bokgoni bofe ho tswa dibekeng tse fetileng bo sebediswang?

---

---

---

4. Nyalanya diketsahalo tse ho Sehlomathiso A: Kotara ya 2 Kakaretso ya Dikahare tsa Beke le beke (Dibeke tsa 4–7) mmoho le dithuto tsa beke ka nngwe.

# Session 4: Data Handling

1 hour

The focus of Term 2 Week 7 is Data Handling.

## Term 2 Content overview: Data Handling

Refer to Data Handling in the content overview (*Concept Guide*, page 136).



### Activity 15

1. What concepts are covered in Term 2?

---

---

---

2. What are the differences between the Maths Programme content and the CAPS content?

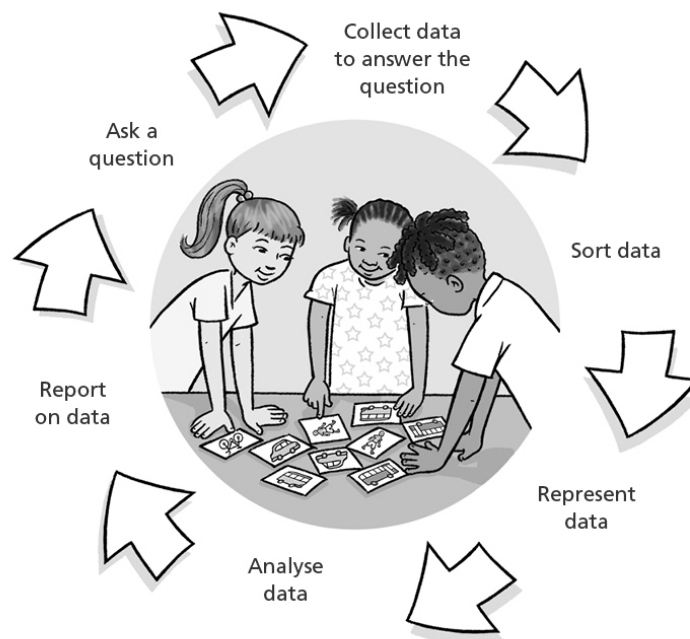
---

---

---

## Data Handling

The Data Handling Content Area focuses on the purpose and process of handling data. It involves solving a problem or answering a question by collecting, sorting, representing and interpreting data.





# Karolo ya 4: Ho Sebetsa ka Datha

Hora e 1

Tsepamiso ya Kotara ya 2 Beke ya 7 ke Ho Sebetsa ka Datha.

## Kotara ya 2 Tjhebokakaretso ya dikahare: Ho Sebetsa ka Datha

Sheba ho Ho Sebetsa ka Datha ho tjhebokakaretso ya dikahare (*Tataiso ya Mareo*, leqephe la 137).



### Ketsahalo ya 15

1. Ke mareo afe a rutilweng ho Kotara ya 2?

---

---

---

2. Diphapang ke dife pakeng tsa dikahare tsa Lenaneo la Mmetse le dikahare tsa SLTK?

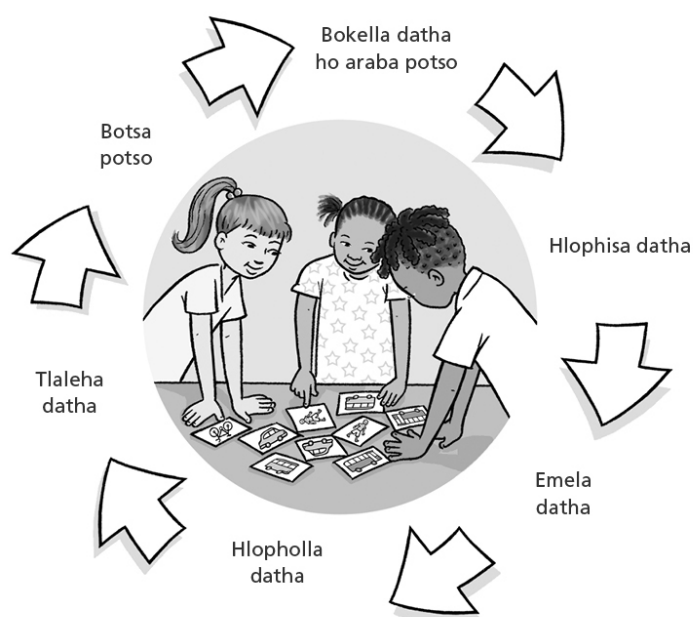
---

---

---

## Ho Sebetsa ka Datha

Karolo ya Dikahare ya Ho Sebetsa ka Datha e tsepamisa maikutlo ho sepheo le mokgwatsamaiso wa ho sebetsa ka datha. E kenyeletsa ho rarolla bothata kapa ho araba potso ka ho bokella, ho hlophisa, ho emela le ho hlalosa datha.



In Grade R learners should have many opportunities to sort objects according to one or more attributes, such as colour, size or shape. Sorting is part of Data Handling, but it is not the only focus. It is important to always bring the learners back to the question that has been posed and the reason why they are collecting, sorting and thinking of ways to represent the data.

Questions are key to Data Handling, e.g.:

- ◆ I wonder which coldrink most learners like?
- ◆ How should we collect our data?
- ◆ How should we sort the data?
- ◆ How should we represent the data?



### Activity 16

Discuss how you could plan and implement a Data Handling activity based on the above questions. Record your ideas on flipchart paper.

### Representing data

Grade R learners explore different ways of showing or displaying the information they have collected. A **pictograph** is a way of representing data using pictures. In the whole class activity on Day 3 of Week 7, learners discuss how they come to school. Each learner is given a smiley face on **exactly the same size piece of paper**. They display the data by putting their picture in a column to represent four different means of transport. It is important to place the data in the columns, **without spaces** between the pieces of paper. The data is clearly represented and easy to interpret in order to answer the question: 'How do most learners come to school?'.

Kereiting ya R baithuti ba lokela ho fumana menyetla e mengata ya ho hlophisa dintho ho ya ka lekgetha le le leng kapa a mmalwa, jwaloka mmala, boholo kapa sebopeho. Ho hlophisa ke karolo ya Ho Sebetsa ka Datha, empa ha se tsepamiso e le nngwe feela. Ho bohlokwa ho dula o kgutlisetsa baithuti potsong e botsitsweng le lebaka la hore ke hobaneng ba bokella, ba hlophisa le ho nahana ka ditsela tsa ho emela datha.

Dipotso ke senotlolo bakeng sa Ho Sebetsa ka Datha, mohl.:

- ◆ Ke a ipotsa hore ebe baithuti ba bangata ba rata dinomaphodi dife?
- ◆ Re lokela ho bokella datha ya rona jwang?
- ◆ Re lokela ho hlophisa datha jwang?
- ◆ Re lokela ho emela datha jwang?



### Ketsahalo ya 16

Buisanang kamoo le ka rerang le ho kenya tshebetsong ketsahalo ya Ho Sebetsa ka Datha ho theilwe dipotsong tse ka hodimo mona. Rekota mehopolo ya hao pampiring ya fliptjhate.

### Ho emela datha

Baithuti ba Kereiti ya R ba sibolla mekgwa e fapaneng ya ho bontsha kapa ho bea pontsheng tlhahisoleseding eo ba e bokellatseng. **Kerafo ya ditshwantsho** ke tsela ya ho emela datha o sebedisa ditshwantsho. Ho ketsahalo ya tlelase yohle ka Letsatsi la 3 Beke ya 7, baithuti ba buisana ka hore ba tla jwang sekolong. Moithuti ka mong o fuwa sefahleho se bososelang ho **boholo bo lekanang hantle ba sekotwana sa pampiri**. Ba bontsha datha ka ho bea setshwantsho sa bona kholomong ho emela mefuta e mene e fapaneng ya dipalangwang. Ho bohlokwa ho bea datha ka dikholomo, **ntle le dibaka** dipakeng tsa dikotwana tsa pampiri. Datha e bontshwa ka ho hlaka mme e hlaloseha ha bonolo bakeng sa ho araba potso ena: 'Bana ba bangata ba tla jwang sekolong?'

## Term 2 Content Summary (Week 7)



### Activity 17

Refer to Appendix A: Term 2 Weekly Content Summary (Weeks 4–7). Read the content overview for Week 7: Data Handling on page 20 of *Activity Guide: Term 2*.

1. What are the topics for Week 7?

---

---

2. What new knowledge is introduced in this week?

---

---

---

3. What skills from previous weeks are practised?

---

---

---

4. Match the activities in Appendix A: Term 2 Weekly Content Summary (Weeks 4–7) with the lessons in each week.

5. Refer to the teacher-guided activity in Week 7 (*Activity Guide: Term 2*, page 132). Discuss how the teacher guides the learners to sort the animals and then represent the data on a grid.

## Kotara ya 2 Kakaretso ya Dikahare (Beke ya 7)



### Ketsahalo ya 17

Sheba ho Sehlomathiso A: Kotara ya 2 Kakaretso ya Dikahare tsa Beke le beke (Dibeke tsa 4–7). Bala tjhebokakaretso ya dikahare bakeng sa Beke ya 7: Ho Sebetsa ka Datha ho leqephe la 21 la *Tataiso ya Diketsahalo: Kotara ya 2*.

1. Dihlooho tsa Beke ya 7 ke dife?

---

---

2. Ke tsebo efe e ntjha e tsebisitsweng bekeng ena?

---

---

---

3. Ke bokgoni bofe ho tswa dibekeng tse fetileng bo sebediswang?

---

---

---

4. Nyalanya diketsahalo tse ho Sehlomathiso A: Kotara ya 2 Kakaretso ya Dikahare tsa Beke le beke (Dibeke tsa 4–7) mmoho le dithuto tsa beke ka nngwe.

5. Sheba ketsahalo e tataiswang ke titjhere e ho Beke ya 7 (*Tataiso ya Diketsahalo: Kotara ya 2*, leqephe la 133). Buisanang kamoo titjhere a tataisang baithuti ho hlophisa diphoofolo le ho bontsha datha keriting.

# Closing activities

1 hour



## Activity 18

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

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



### Take back to school task

1. Continue to use the Record of Continuous Assessments in *Activity Guide: Term 2* to assess your learners. Make use of your ongoing observation notes to build up evidence of what learners understand and can do.
2. Identify any concerns you have about individual learner's emerging grasp of maths concepts.
3. Bring copies of rubrics that you have used for maths assessment to the next workshop.
4. Bring a completed assessment record for one learner to the next workshop.
5. Use *Activity Guide: Term 2* to plan and implement Weeks 4–7 of the Maths Programme, including creating a maths area with a focus on the concept for each week.
6. Make notes on what worked well, what did not work so well and what you could do differently to improve teaching and learning.

### Evaluation

Complete the Evaluation Form.

# Diketsahalo tsa ho kwala

Hora e 1



## Ketsahalo ya 18

**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



### Mosebetsi wa kgutlela le yona sekolong

1. Tswela pele ho sebedisa Rekoto ya Ditekanyetso tse Tswelang tse ho *Tataiso ya Diketsahalo: Kotara ya 2* ho lekanyetsa baithuti. Sebedisa dinoutso tsa hao tsa ditemoho tse tswelang ho aha bopaki ba seo baithuti ba se utlwisisang le ho ka se etsa.
2. Hlwaya dingongoreho dife kapa dife tseo o nang le tsona mabapi le kutlwisiso e hlahellang ya baithuti ka bomong ya mareo a mmetse.
3. Tloo le dikhopi tsa diruburiki tseo o di sebedisitseng bakeng sa tekanyetso ya mmetse wekshopong e latelang.
4. Tloo le rekoto ya tekanyetso e felletseng ya moithuti a le mong wekshopong e latelang.
5. Sebedisa *Tataiso ya Diketsahalo: Kotara ya 2* bakeng sa ho rera le ho kenya tshebetsong Dibeke tsa 4–7 tsa Lenaneo la Mmetse, ho kenyeletsa ho thea sebaka sa mmetse o tsepamisitse maikutlo ho lereo le itseng bakeng sa beke ka nngwe.
6. Etsa dinoutso mabapi le tse sebeditseng hantle, tse sa sebetsang hantle le tseo o nahanang hore o ka di etsa ka tsela e fapaneng ho ntlafatsa ho ruta le ho ithuta.

### Tlhahlobo

Tlatsa Foromo ya Tlhahlobo.

## APPENDIX A: TERM 2 WEEKLY CONTENT SUMMARY (WEEKS 4-7)

### Term 2: Activity Plan

Week 4				
<b>CONTENT AREA: SPACE AND SHAPE (GEOMETRY)</b>				
<b>TOPIC: Position, orientation and views; describes, sorts and compares 3-D objects</b>				
<b>INTRODUCE NEW KNOWLEDGE:</b> Sort 3-D objects according to similarities and differences, one more, one less				
<b>PRACTISE:</b> Oral counting 1-15 and 5-1, counting objects 1-7, number concept 1-4, reinforce all shapes				
Whole class activities		Teacher-guided activity	Workstation activities	
<b>Day 1</b>	Reinforce all shapes/shape hunt.	Practise 1-4.	<b>Activity 1</b>	A circle/square/triangle can also be a ... (create a picture).
<b>Day 2</b>	Feely bag – feel different shapes and describe them.	Describing an object from different positions.	<b>Activity 2</b>	Make shapes using cookie cutters and playdough.
<b>Day 3</b>	Find shapes in class using position words.	Practising shapes and positions.	<b>Activity 3</b>	Block construction – use blocks/Unifix blocks.
<b>Day 4</b>	Shape detectives. One more, one less.		<b>Activity 4</b>	Puzzles (minimum of 12 pieces).
<b>Day 5</b>	Direction and position. Obstacle course.			
Week 5				
<b>CONTENT AREA: NUMBERS, OPERATIONS AND RELATIONSHIPS</b>				
<b>TOPIC: Recognise number symbols and number words; describes, orders and compares numbers</b>				
<b>INTRODUCE NEW KNOWLEDGE:</b> Introduce number 5				
<b>PRACTISE:</b> Oral counting 1-15, counting objects 1-7, count backwards from 5 (rhymes), reinforce number concept 1-4, sequencing numbers 1-4, more/fewer				
Whole class activities		Teacher-guided activity	Workstation activities	
<b>Day 1</b>	Introduce 5 (5 monkeys in the fifth house).	Match number symbols, number words and dot cards (4 and 5).	<b>Activity 1</b>	Playdough mat 5.
<b>Day 2</b>	Reinforce 4 and 5 (number symbols and number words).	Counting 1-7.	<b>Activity 2</b>	Ladybird numbers (roll correct number of paper balls).
<b>Day 3</b>	Counting forward and backwards. Number line.	Estimate and count. Structure beads.	<b>Activity 3</b>	Number matching – pegs.
<b>Day 4</b>	Reinforce 4 and 5.	Different configurations of the same number.	<b>Activity 4</b>	Number puzzles to 5 (using number words).
<b>Day 5</b>	Reinforce numbers 1-5 (dot cards, number symbols, number words to recognise).			



## SEHLOMATHISO A: KOTARA YA 2 KAKARETISO YA DIKAHARE TSA BEKE LE BEKE (DIBEKE TSA 4-7)

### Kotara ya 2: Moralo wa Ketsahalo

Beke ya 4				
<b>KAROLO YA DIKAHARE: SEBAKA LE SEBOPEHO (JEOMETRI)</b>				
<b>SEHLOOHO: Boemo, tlwaetso le ditjhebo: o hlalosa, o hlophisa le ho bapisa dintho tsa 3-D</b>				
<b>TSEBISA TSEBO E NTJHA:</b> Hlophisa dintho tsa 3-D ho ya ka ditshwano le diphapang, tse ngata ka e le nngwe, tse ka tlase ka e le nngwe				
<b>HO ETSA:</b> Ho bala ka molomo 1-15 le 5-1, ho bala dintho 1-7, kgopolo ya dinomoro 1-4, hatella dibopeho kaofela				
Diketsahalo tsa tlase yohle		Ketsahalo e tataiswang ke titjhere	Diketsahalo tsa diteisheneng tsa tshebetso	
<b>Letsatsi la 1</b>	Hatella dibopeho/ho tsoma dibopeho tsohle.	Ikwetliseng ka 1-4. Ho hlalosa ntho ho tswa maamong a fapaneng. Ho ikwetlisa ka dibopeho le maemo.	<b>Ketsahalo ya 1</b>	Sedikadikwe/kgutlonnetsepa/kgutlotharo hape e ka ba ... (bopa setshwantsho).
<b>Letsatsi la 2</b>	Mekotla e phopholetswang – phopholetsang dibopeho tse fapaneng mme le di hlalose.		<b>Ketsahalo ya 2</b>	Etsang dibopeho le sebedisa disehadikuku le hlama ya ho bapala.
<b>Letsatsi la 3</b>	Batlang dibopeho ka tselaseng le sebedisa mantswe a boemo.		<b>Ketsahalo ya 3</b>	Ho aha ka diboloko – sebedisang diboloko/diboloko tsa <i>Unifix</i> .
<b>Letsatsi la 4</b>	Mafokisi a dibopeho. E le nngwe ho feta, e le nngwe ka tlase.		<b>Ketsahalo ya 4</b>	Diphazele (dikotwana tse seng ka tlase ho 12).
<b>Letsatsi la 5</b>	Tshupiso le boemo. Tselana ya ditshita.			
Beke ya 5				
<b>KAROLO YA DIKAHARE: DINOMORO, MATSHWAO LE DIKAMANO</b>				
<b>SEHLOOHO: Ho lemoha matshwao a dinomoro le mantswe a dinomoro; o hlalosa, o hlophisa le ho bapisa dinomoro</b>				
<b>TSEBISA TSEBO E NTJHA:</b> Tsebisa nomoro ya 5				
<b>HO ETSA:</b> Ho bala ka molomo 1-15, ho bala dintho 1-7, bala o kgutlela morao ho tloha ho 5 (diraeme), hatella kgopolo ya dinomoro 1-4, ho hlahlamanya dinomoro 1-4, ngata ho/mmalwa ho				
Diketsahalo tsa tlase yohle		Ketsahalo e tataiswang ke titjhere	Diketsahalo tsa diteisheneng tsa tshebetso	
<b>Letsatsi la 1</b>	Tsebisa 5 (ditshwene tse 5 ntlong ya bohlang).	Nyalanya matshwao a dinomoro, mantswe a dinomoro le dikarete tsa matheba (4 le 5). Ho bala 1-7. Lekanyetsa mme o bale. Difaha tsa sebopelo. Dibopeho tse fapaneng tsa nomoro e le nngwe.	<b>Ketsahalo ya 1</b>	Mmata wa hlama ya ho bapala wa 5.
<b>Letsatsi la 2</b>	Hatella 4 le 5 (matshwao a dinomoro le mantswe a dinomoro).		<b>Ketsahalo ya 2</b>	Dinomoro tsa maleshwane (rola lenane le nepahetseng la dibolo tsa pampiri).
<b>Letsatsi la 3</b>	Ho bala o eya pele le ho kgutlela morao. Molapalo.		<b>Ketsahalo ya 3</b>	Ho nyalanya dinomoro – diphekse.
<b>Letsatsi la 4</b>	Hatella 4 le 5.		<b>Ketsahalo ya 4</b>	Diphazele tsa dinomoro ho isa ho 5 (le sebedisa mantswe a dinomoro).
<b>Letsatsi la 5</b>	Hatella dinomoro tsa 1-5 (dikarete tsa matheba, matshwao a dinomoro, mantswe a dinomoro ao o ka a lemohang).			

Week 6				
<b>CONTENT AREA: PATTERNS, FUNCTIONS AND ALGEBRA</b>				
<b>TOPIC: Copies and extends simple repeating patterns; creates own patterns; describes the repeat in patterns</b>				
<b>INTRODUCE NEW KNOWLEDGE:</b> Copy and extend simple patterns, create and explain own pattern, oral counting 1–20, count backwards from 7				
<b>PRACTISE:</b> Sequencing numbers 1–5, counting objects 1–7, making groups the same				
Whole class activities		Teacher-guided activity	Workstation activities	
Day 1	Physical patterns.	Focus on number concept 1–5. Shake and break. Make equal groups. Patterns with a partner. Unifix blocks.	Activity 1	Extension of a pattern – drawing and colouring in. Snake patterns – using shapes. Pattern cards – using Unifix blocks. Threading patterns with beads.
Day 2	Identifying patterns in everyday objects.		Activity 2	
Day 3	Problem solving using patterns.		Activity 3	
Day 4	Making patterns using everyday objects.		Activity 4	
Day 5	Sound patterns.			
Week 7				
<b>CONTENT AREA: DATA HANDLING</b>				
<b>TOPIC: Collects and sort objects; represents sorted collections of objects; discusses and reports on sorted collections of objects</b>				
<b>INTRODUCE NEW KNOWLEDGE:</b> Draw a picture of collected objects, answer questions on own picture				
<b>PRACTISE:</b> Oral counting 1–20 and backwards from 7, counting objects 1–7, more than/less than/equal to, number concept 1–5, sorting and classifying				
Whole class activities		Teacher-guided activity	Workstation activities	
Day 1	Collects and sort objects (round or square).	Estimating. Counting. Sorting collections of animals. Pictograph: more/less. Questioning.	Activity 1	Cutting and sorting transport pictures. Sorting waste objects. Shape graph (use cut out shapes). Sorting by colour.
Day 2	Sorting game. Poster 8.		Activity 2	
Day 3	Pictograph: How do you get to school?		Activity 3	
Day 4	Discuss Day 3 results (asking questions).		Activity 4	
Day 5	Collect and sort classroom objects.			

Beke ya 6				
<b>KAROLO YA DIKAHARE: DIPATERONE, DITSHEBETSO LE ALJEBRA</b>				
<b>SEHLOOHO: O kopolla le ho atolosa dipaterone tse iphetang tse bonolo; o ipopela dipaterone tsa hae; o hlalosa phetapheto dipateroneng</b>				
<b>TSEBISA TSEBO E NTJHA:</b> Kopolla le ho atolosa dipaterone tse bobebe, bopa le ho hlalosa dipaterone tsa hao, ho bala ka molomo 1–20, ho bala o kgutlela morao ho tloha ho 7				
<b>HO ETSA:</b> Ho hlahlamanya dinomoro 1–5, ho bala dintho 1–7, ho etsa hore dihlopha di tshwane				
Diketsahalo tsa tlelase yohle		Ketsahalo e tataiswang ke titjhere	Diketsahalo tsa diteisheneng tsa tshebetso	
<b>Letsatsi la 1</b>	Dipaterone dinthong tse tshwarehang.	Tsepama ho kgopolo ya dinomoro 1–5. Tsukutla mme o arole. Etsa dihlopha tse lekanang. Dipaterone mmoho le molekane. Diboloko tsa <i>Unifix</i> .	<b>Ketsahalo ya 1</b>	Katoloso ya paterone – ho taka le ho kenya mebala. Dipaterone tsa noha – ho sebedisa dibopeho. Dikarete tsa dipaterone – ho sebedisa diboloko tsa <i>Unifix</i> . Ho rokella dipaterone ka difaha.
<b>Letsatsi la 2</b>	Ho hlwaya dipaterone dinthong tsa letsatsi le letsatsi.		<b>Ketsahalo ya 2</b>	
<b>Letsatsi la 3</b>	Ho rarolla bothata o sebedisa dipaterone.		<b>Ketsahalo ya 3</b>	
<b>Letsatsi la 4</b>	Ho etsa dipaterone o sebedisa dintho tsa letsatsi le letsatsi.		<b>Ketsahalo ya 4</b>	
<b>Letsatsi la 5</b>	Dipaterone tsa medumo.			
Beke ya 7				
<b>KAROLO YA DIKAHARE: HO SEBETSA KA DATHA</b>				
<b>SEHLOOHO: O bokella le ho hlophisa dintho; o emela dipokello tse hlophisitsweng tsa dintho; ho buisana le ho tlaleha mabapi le dipokello tse hlophisitsweng tsa dintho</b>				
<b>TSEBISA TSEBO E NTJHA:</b> Taka setshwantsho sa dintho tse bokeletsweng, araba dipotso mabapi le setshwantsho sa hao				
<b>HO ETSA:</b> Ho bala ka molomo 1–20 le ho kgutlela morao ho tloha ho 7, ho bala dintho 1–7, ngata ho feta/mmalwa ho feta/lekana le/kgopolo ya dinomoro 1–5, ho hlophisa le ho hlopha				
Diketsahalo tsa tlelase yohle		Ketsahalo e tataiswang ke titjhere	Diketsahalo tsa diteisheneng tsa tshebetso	
<b>Letsatsi la 1</b>	O bokella le ho hlophisa dintho (tjhitjha kapa kgutlonnetsepa).	Ho lekanyetsa. Ho bala. Ho hlophisa dipokello tsa diphoofolo. Kerafo ya ditshwantsho: ngata ho feta/mmalwa ho feta. Ho botsa dipotso.	<b>Ketsahalo ya 1</b>	Ho seha le ho hlophisa ditshwantsho tsa dipalangwang. Ho hlophisa dintho tse lahlwang. Kerafo ya dibopeho (sebedisa dibopeho tse sehilweng). Ho hlophisa ho ya ka mebala.
<b>Letsatsi la 2</b>	Papadi ya ho hlophisa dintho. Phoustara ya 8.		<b>Ketsahalo ya 2</b>	
<b>Letsatsi la 3</b>	Kerafo ya ditshwantsho: O ya jwang sekolong?		<b>Ketsahalo ya 3</b>	
<b>Letsatsi la 4</b>	Buisanang ka diphetho tsa Letsatsi la 3 (le botsa dipotso).		<b>Ketsahalo ya 4</b>	
<b>Letsatsi la 5</b>	Bokella le ho hlophisa dintho tsa ka phaposing ya borutelo.			

# Workshop 5 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 5

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 phaposeng 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?

---

---

---

---