



**GAUTENG PROVINCE**  
EDUCATION  
REPUBLIC OF SOUTH AFRICA

**GGT 2030**  
GROWING GAUTENG TOGETHER

Setswana/English

# **Lenaneotokafatso la Dipalo tša Mophato R Grade R Mathematics Improvement Programme**



**Thutano 5 • Workshop 5**  
**Bukatiro ya Batsayakarolo • Participant's Workbook**

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

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

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

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- The R-Maths writing team: SDU staff and consultants.



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Porojeke ya Lenaneotokafatso la Dipalo le Puo tsa Mophato wa R ke itshimololelo ya **Lefapha la Thuto la Gauteng (Gauteng Department of Education)** mmogo le badirisani ba bona ba botlhokwa, **Gauteng Education Development Trust**.

Tlhabololo le tlhagiso ya didiriswa tsa katiso le phaposiborutelo ya Porojeke ya Lenaneotokafatso la Dipalo le Puo tsa Mophato wa R e kgonthitswe ke tshegetso ya **United States Agency for International Development** le **Zenex Foundation** ka matlole.

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**Schools Development Unit (SDU)** kwa **University of Cape Town (UCT)** ke badirisani ba setegeniki ba dipalo go Porojeke ya Lenaneotokafatso la Dipalo le Puo tsa Mophato wa R. SDU ke yuniti e e ka tlase ga School of Education sa UCT e e totileng tokafatso ya boporofesenele jwa barutabana mo Dipalong, Bonetetshing, Kitsokwalo/Puo le Dikgonotshelo go simolola ka Mophato R go fitlha ka Mophato 12. SDU e neelana ka thuto ka boithutedi jwa borutabana le dithutokhutshwe tse di dumeletsweng tsa UCT, tiro ya kwa sekolong, tlhagiso ya dibukana le dipatlisiso go tshegetsa go ruta le go ithuta mo makaelong otlhe a Aforikaborwa.

#### DITEBOGO

Ditebogo di lebiswa segolobogolo go:

- Batlhankedi ba Lefapha la Thuto la Gauteng mo Lephatheng la Kharikhulamo, Bokaedi jwa Thuto ya Barutabana le Thuto e e Kgethegileng ka ntlha ya seabe sa bona go dirisa dibukana tseno tsa rona.
- Badiri le barutabana ba Western Cape Education Department (WCED) ka ntlha ya seabe sa bona mo go netefatseng gore Grade R Mathematics Programme (*R-Maths*) e a diragadiwa mo Kapabophirima magareng ga 2016 le 2019.
- Setlhophla se se kwalang *R-Maths*: Badiri ba SDU le bagakolodi.



Porojeke ya Lenaneotokafatso la Dipalo tsa Mophato R le tserwe go tswa mo *R-Maths*, e phasaladitswe lwantlha ka 2017 ke Schools Development Unit, ya University of Cape Town. Tetlokhopi ya *R-Maths* e tshwerwe ke University of Cape Town.

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Laesense e e letlelela go phatlalatsa, go tswakanya, go fetola, le go agelela mo godimo ga didiriswa ka mofuta mongwe le mongwe wa tiriso kgotsa tsela nngwe le nngwe fela ya go sa dire letseno, le fela fa e le gore o kaya motlhami wa tiro. Fa o tswakanya, o fetola kgotsa go agelela mo godimo ga didiriswa, o tshwanetse go batla laesense e e tsamaelanang le se o se dirileng. Go bona maemo a laesense eno ka botlalo, etela

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# 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)

# Thadiso

## Maitlhommo

Eno ke thutano ya botlhamo ya dithutano di le lesomepedi tsa Lenaneotokafatso la Dipalo tsa Mophato R, le e leng karolo ya Porojeke ya Lenanaeotokafatso la Dipalo le Puo tsa Mophato R la Lefapha la Thuto la Gauteng (GDE).

Maitlhommo a thutano eno ke go thusa barutabana go diragatsa Lenaneo la Dipalo mo diphaposiborutelong tsa bona, go tiisa go tlhaloganya go ruta le go ithuta ga bona mo Dikaroloteng tse di lebilweng mo Kgweditharong ya 2 Dibeke 4–7 le go sedisisa ka moo ba dirisang melawana ya go kaela ya mo go ruteng dipalo ka go ikatisa mo diphaposiborutelong tsa bona.

Metswedi ya Dikaroloteng tsa Dipalo tsa Mophato wa R di tserwe go tswa mo *Pegelong ya Pholisi ya Kharikhulamo le Tlhatlhobo (PPKT): Dipalo tsa Mophato wa R (Lokwalo lwa Bofelo)*, 2011, Lefapha la Thutotheo, Aforika Borwa.

## Dipoelothuto

- ◆ Go sedisisa tiragatso ya Kgweditharo 1 Beke 10 le mo Kgweditharo 2 Dibeke 1–3
- ◆ Go sedisisa ditogamaano tsa go tshegetsa go ruta dipalo mo Mophato R
- ◆ Go sedisisa melawana ya go kaela ya go ruta ya Lenaneo la Dipalo
- ◆ Go lebelela diteng tsa Lenaneo la Dipalo tsa Kgweditharo 2 Dibeke 4–7 (Boalo le Popego (Jeometri); Dinomore, Ditiro le Dikamano; Dipaterone, Ditiro le Alejibora; le Go Ranola Tshedimoseketo)
- ◆ Go buisana ka ga dikelotlhoko tse di maleba le tlhatlhobo mo Mophatong wa R

## Diteng tsa thutano

- ◆ Pulo le tshedisiso (Ura e le 1)
- ◆ Karolo 1: Boalo le Popego (Jeometri) (Ura e le 1)

### TEE

- ◆ Karolo 2: Dinomore, Ditiro le Dikamano (Ura e le 1)
- ◆ Karolo 3: Dipaterone, Ditiro le Alejibora (Ura e le 1)

### DIJOTSHEGARE

- ◆ Karolo 4: Go Ranola Tshedimoseketo (Ura e le 1)
- ◆ Ditirwana tsa tswalelo (Ura e le 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?

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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?

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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*?

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# Pulo le tshedisiso

Ura e le 1

**Molawana wa kakaretso:** Barutwana botlhe ba tshwanetse ba ikutlwa ba amogelesega, ba akareditswe mme e bile ba itumelela go nna le seabe. Gopola go tsaya barutwana botlhe sentle o sa ba gobebele mme e bile o supa tlotlo.

Sedisa tiragatso ya gago ya Lenaneo la Dipalo mo lenaneong la gago la letsatsi le letsatsi mme morago o dire tirwana e e latelang.



## Tirwana 1

Bua ka ga tswelolepele ya gago mo go diragatseng *Tirwana e o e busetsang kwa sekolong* go tswa mo Thutanong 4.

1. O lemogile tswelolepele efe mo barutwaneng ba gago mo dipalong morago ga go diragatsa Kgweditharo 1?

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2. Tshedimosetso ka ga 'Ela tlhoko gore barutwana ba kgona go' mo *Kaeding ya Ditirwana: Kgweditharo 1* e go thusitse jang go tlhatlhoa tswelolepele ya morutwana mongwe le mongwe mo Kgweditharong 1?

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3. A o kgonne go rekota tswelolepele ya morutwana mongwe le mongwe ka katlego ka go dirisa Kgweditharo 1: Rekoto ya Sekai sa Ditlhatlhobotsweledi mo tsebeng 190–193 ya *Kaedi ya Ditirwana: Kgweditharo 1*?

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### 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.

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### 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.

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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 1

Lebelela video ya morutabana a bua ka ga kelotlhoko le tthatlhobo mo phaposing ya gagwe ya Mophato R.

O akanya gore maitlhommo a tirwana ke afe? Lebelela ka kelotlhoko ka moo morutabana o tlotlheletsang barutwana ka dipotso le ka moo o elang morutwana mongwe le mongwe tlhoko ka teng.

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### Tirwana 2

Mo setlhopheng sa gago se sennye, buisanang ka ga:

1. O tsamaisa jang tthatlhobo mo phaposiborutelong ya gago.
2. O dirisa jang ruburiki mo tthatlhobong ya gago?
3. O tsenyeletsa jang matlhamaganyane a maranyane a Ditlhatlhobo tsa kwa sekolong (SBA) le SA-SAMS jaaka karolo ya tthatlhobo ya gago.

Kwala dintlha tsa puisano ya gago tsa botlhokwa go arogana le setlhopha sotlhe. Dirisa tse di dirang sentle le moo o nang le dikgwetlho ka tthatlhobo.

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**Molawana wa maemo:** Barutwana bangwe ba ka tswa ba tlhoka go ikatisa go le gontsi le tshegetso go na le ba bangwe. Netefatsa gore o neela barutwana nako e e lekaneng le tshegetso go dira ditirwana, go akanya le go 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?

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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.

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# Karolo 1: Boalo le Popego (Jeometeri)

Ura e le 1

## Karolo 2 Thadiso ya diteng: Boalo le Popego (Jeometeri)

Karolo eno e tobile go ruta diteng tsa Kgweditharo 2 Beke 4 – Boalo le Popego (Jeometeri). Gopola gore Boalo le Popego (Jeometeri) di ne di tobilwe mo Bekeng 3 tse re di lebeletseng mo Thutanong ya 4.

Buisa thadiso ya diteng tsa Boalo le Popego (Jeometeri) mo ditsebeng 126–131 tsa *Kaedi ya Mogopolo* mme morago o wetse Tirwana 3.



### Tirwana 3

Ke megopolo efe ya Boalo le Popego e e tlagisitsweng mo 3.1 le 3.2 tsa thadiso ya diteng?

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Mo Mophatong wa R, barutwana ba tthalosa, ba tthaola, le go bapisa dilo tsa 3-D le go tota ditshwano le dipharologano magareng ga tsona. Mo Kgweditharong ya 2 Beke 4 barutwana ba tthaola, bapisa le go tthalosa dilo tsa 3-D go ya ka bogolo, mmala le popego. Gape ba lebelela dilo le go di tthalosa ba lebile kamano ya tsona le go tswa mo boemong jo bo farologaneng (tlwaetso le dipono). Beke 4 gape e tobile go latela dintlhakaelo le go dirisa tlotlofoko e e amanang le boemo.



### Tirwana 4

1. Tthalosa gore o ne o ka dirisa jang dilo mo phaposiborutelong ya gago go rotloetsa barutwana go bua ka ga boemo jwa bona ba ikaegile ka dilo tse ba di lebeletseng.

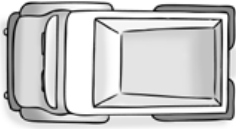
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2. Look at the pictures. Describe where you would stand in order to see each of the views of the truck.



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### 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?

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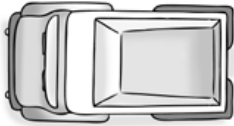
2. Give examples of guiding questions that are asked in the teacher-guided activities. Will these questions encourage learners to talk about the concepts in question 1?

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2. Lebelela ditshwantsho. Tlhalosa gore o ne o ka ema kae gore o kgone go bua dipono dingwe le dingwe tsa llori.



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### Kgweditharo 2 Beke 4

Lebelela tirwana e e kaelwang ke morutabana mo ditsebeng 80–83 tsa *Kaedi ya Ditirwana: Kgweditharo 2*.



#### Tirwana 5

1. Ke megopolo efe ya Boalo le Popego e e tlhagisitsweng?

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2. Neela dikao tsa dipotso tse di kaelang tse di bodiwang mo ditirwaneng tse di kaelwang ke morutabana. A dipotso tseno di tlaa rotloetsa barutwana go bua ka ga megopolo mo potsong 1?

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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?

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2. What new knowledge is introduced in this week?

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3. What skills from previous weeks are practised?

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Barutwana ba tlhoka ditšhono tse dintsi go tshameka ka dilo tse di kokoantsweng tsa 3-D le go di rulaganya. Barutabana ba tlhoka go tlhologanya megopolo e e fitlhegileng mo Boalong le Popego (Jeometri) le go di tshaeletsa ka go dirisa puo e e nepagetseng ya dipalo.

Dintlha tse di latelang di tshwanetse go gopolwa.

- ◆ Selo ke sa tlhakoretharo (3-D). O ka se lebelela go tswa kwa godimo, go tswa kwa tlase le go tswa mo matlhakoreng. Dilo tsa 3-D di na le boleele, bophara (boatlhamo) le bogodimo.
- ◆ Popego ke ya tlhakorepedi (2-D). Dipopego di akaretsa didiko, dikhutlotharo, dikhutlonne le dikhutlonnetsepa. Di na le boleele le bophara (boatlhamo).
- ◆ Fa barutwana ba tlhotlhomisa diponagalo tsa dilo tsa 3-D, ba tlaa tshaola dilo tse di 'lebegang e kete' dipopego tsa 2-D, sk. lebati le lebega e kete khutlonnetsepa, letshwao la tsela le lebega e kete khutlotharo, poleite e lebega e kete sediko. Ba tlaa simolola go tlhologanya gore madilo a dilo tsa 3-D a lebega e kete dipopego tsa 2-D.

**Molawana wa tirisano:** Go ithuta go akaretsa tshaeletsano le thefosano ya dikakanyo. Go tsibogela sengwe ka tsela e e maleba ke karolo e e botlhokwa tota ya tshaeletsano le ya go ruta le go ithuta. Reetsa barutwana ka gale fa ba refosana dikakanyo kgotsa ba tsibogela dipotso tsa gago.

## Kgweditharo 2 Khutshwafatso ya Diteng (Beke 4)



### Tirwana 6

Lebelela Mametlelelo A: Kgweditharo 2 Khutshwafatso ya Diteng tsa Beke le Beke (Dibeke 4–7). Buisa thadiso ya diteng tsa Beke 4: Boalo le Popego (Jeometri) mo tsebeng 10 ya *Kaedi ya Ditirwana: Kgweditharo 2*.

1. Dithogo tsa Beke 4 ke dife?

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2. Ke kitso efe e ntšhwa e e tlhagisitsweng mo bekeng eno?

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3. Ke dikgono dife tse di diragadiwang go tswa mo dibekeng tse di fetileng?

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# 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?

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## 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

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Day 2

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# Karolo 2: Dinomore, Ditiro le Dikamano Ura e le 1

Kgweditharo 2 Beke 5 e tobile Dinomore, Ditiro le Dikamano.

## Karolo 2 Thadiso ya diteng: Dinomore, Ditiro le Dikamano

Dithutano tse di fetileng di tlhagisitse Karoloteng e e Lebeletsweng: Dinomore, Ditiro le Dikamano. Mo karolong eno, re lebelela thadiso ya diteng tsa Kgweditharo 1–4 (*Kaedi ya Mogopolo*, ditsebe 114–123) gape.



### Tirwana 7

Ke dinomore dife tse dintšhwa tse di tlhagisitsweng mo Kgweditharong ya 2?

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## Kgweditharo 2 Beke 5: Go ruta nomore

Nomore 'tlhano' e tlhagisitswe mo Kgweditharong ya 2 Beke 5. Lenaneo la Dipalo le rotloetsa tiriso ya dinomore mo maemong a a farologaneng le tiriso ya ditlhagiso di le mmalwa, sk. letshwao, lefoko, setshwantsho, dikaratarontho, dibadi, kopo ya diatla. Moetlo wa go tlhagisa nomore nngwe le nngwe o dira gore barutwana ba nne mo moetlong o o tlwaelegileng, o o bonelwang pele, o o kgalhisang le go tlhagisa nomore ka ditsela tse di farologaneng.



### Tirwana 8

Lebelela Beke 5 ditirwana tsa phaposiborutelo yotlhe mo *Kaeding ya Ditirwana: Kgweditharo 2* (ditsebe 90-99). Tlhalosa moetlo o o dirisitsweng go ruta nomore '5'.

Letsatsi 1

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Letsatsi 2

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Day 3

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Day 4

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Day 5

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### **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 3

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Letsatsi 4

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Letsatsi 5

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### **Mogala wa dinomore**

Dinomore 1 go ya go 5 di ne di phekesitswe mo mogaleng wa dinomore mo lefelong la dipalo fa di ne di tlhagisiwa mo Kgweditharong ya 1. Ke fela mo Bekeng 5 moo barutwana ba neng ba mekamekana le mogala wa dinomore ka matlhagatlhaga. Bontsi jwa barutabana ba tlhoma megala ya dinomore go simolola ka 0 go ya go 10 kgotsa le fa e le 20 mo phaposiborutelong pele ga barutwana ba kgona go bala kgotsa go lemoga dinomore tseno.

Kwa tshimologong, Lenaneo la Dipalo le ne le tobile mogala wa dinomore ka tshoganyetso. Go tswa mo Bekeng 5, o dirisetswa go tota go latedisana (go rulaganya) ga dinomore le go bua ka ga kamano magareng ga dinomore.

Dirisa mogala wa dinomore go:

- ◆ rulaganya le go bapisa dinomore sk.:
  - Ke nomore efe e e tlang pele ga 3?
  - Ke nomore efe e e magareng ga 3 le 5?
  - Ke nomore efe e e tlang morago ga 4?
- ◆ tlhotlhomisa gore dinomore di oketsega jang go tswa molemeng go ya mojeng, le gore di fokotsega jang go tswa mojeng go ya molemeng.
- ◆ dirisa puo ya dipalo jaaka *pele*, *morago*, *magareng*.

Mo videong, mofatlhosi o diragatsa tirwana ya mogala e e tshegetsang go ruta nomore.

Buisa tirwana e e tlhagisetang barutwana mogala mo tsebeng ya 95 ya *Kaedi ya Ditirwana: Kgweditharo 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.

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**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 2

Lebelela video ya morutabana a dirisa mogala wa dinomore go rulaganya nomore 1 go ya go 5. Lemoga gore o thankgolola jang tirwana mme o ele tlhoko dipotso tse a di botsang go tlhotlheletsa barutwana.

Buisanang ka ga boleng jwa go dirisa mogala wa dinomore mo Mophatong wa R.

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**Go latedisanya dinomore:** A barutwana ba beye dinomore mo thulaganyong e e nepagetseng ya go bala. Barutwana ba bona mogala wa dinomore letsatsi lengwe le lengwe le ka nako ya dipuisano tsa tshoganyetso tebang le nomore e nngwe le e nngwe. **Thulaganyo:** Barutwana ba buisanela dinomore go ya ka moo di amanang ka teng. A barutabana ba ba botse gore ke nomore efe e e tlang pele, morago kgotsa e e mo magareng ga dinomore tse dingwe. Barutwana ba dirisa puo e e nepagetseng ya dipalo go tlhalosa maemo a dinomore go ya ka moo di amanang ka gona.

### Dibaga tsa dikago

Dibaga tsa dikago tse di mo *Kgetsaneng ya Didiriswa* di tla ka boleele jwa dibaga di le 10 di kokoantswe ka bo-tlhano, go ya ka mmala (dibaga tse dikhibidu tse tlhano le dibaga tse tlhano tse diserolwana).

Dibaga tsa dikago di thusa barutwana go:

- ◆ lemoga palo ya dibaga ka gangwe mo setlhopheng kwa ntle ga go bala, sk. '4'.
- ◆ tlhaloganyana gore nomore e le nngwe e ka nna kopanyo ya dinomore tse pedi kgotsa go feta, sk. '4' e dirilwe ka 2 le 2 kgotsa 1 le 3.
- ◆ godisa dikgono tsa go bala go tswa mo nomoreng e e rileng, sk. simolola mo go 3 mme o tswelole go bala go fitlha kwa go 5.
- ◆ simolola go dira ka tlhakanyo le ntsho.
- ◆ simolola go dira ka kopano ya lesome.

Mo tirwaneng e e latelang, dirisa dibaga tsa dikago di le 10 go tlhotlhomisa kopanyo ya dinomore tse di farologaneng. Latela kaelo ya mofatlhosi wa gago mme o tsibogele dipotso jaaka di setilwe mo Tirwaneng 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?

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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.





### Tirwana 9

1. Mpontshe dibaga tse pedi.
2. Mpontshe sebaga se le sengwe.
3. Mpontshe dibaga tse di kwa tlase ga dibaga di le nne ka nngwe.
4. Mpontshe dibaga tse nne. Jaanong mpontshe tse di fetang nne ka nngwe. O na le tse kae?
5. O dirileng gore di dira gore di fete ka nngwe?
6. Mpontshe tse di ka fa tlase ga tlhano ka nngwe. O na le tse kae?
7. O dirileng gore di nne ka fa tlase ka nngwe?
8. Jaanong ntsha se le sengwe. O na le tse kae?
9. Tsenya se le sengwe. O na le tse kae?

Buisa tirwana e e tlhagisetsang barutwana dibaga tsa dikago mo tsebeng ya 101 ya *Kaedi ya Ditirwana: Kgweditharo 2*, kgato 3. Mo ditlhopheng, buisanelang tirwana eno.



### Tirwana 10

Tirwana eno ya dibaga tsa dikago e go thusa jang go aga go tlhalonganya dinomore ga barutwana?

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**Molawana wa tiragatso:** Barutwana ba tshwanetse go nna le nako e ntsi go diragatsa dikgono tse dintšhwa le kitso. Fa barutwana ba na le nako ya go diragatsa se ba setseng ba se ithutile gangwe le gape, ba nna botoka mo go sona mme e bile ba itshepa botoka. Ba itumelela poeletso le tiragatso.

## 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?

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2. What new knowledge is introduced in this week?

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3. What skills from previous weeks are practised?

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

## Kgweditharo 2 Khutshwafatso ya Diteng (Beke 5)



### Tirwana 11

Lebelela Mametlelelo A: Kgweditharo 2 Khutshwafatso ya Diteng tsa Beke le Beke (Dibeke 4–7). Buisa thadiso ya diteng tsa Beke 5: Dinomore, Ditiro le Dikamano mo tsebeng ya 19 ya *Kaedi ya Ditirwana: Kgweditharo 2*.

1. Ditlhogo tsa Beke 5 ke dife?

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2. Ke kitso efe e ntšhwa e e tlhagisitsweng mo bekeng eno?

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3. Ke kgono efe e e diragadiwang go tswa mo dibekeng tse di fetileng?

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4. Nyalanya ditirwana mo Mametlelelong A: Kgweditharo 2 Khutshwafatso ya Diteng tsa Beke le Beke (Dibeke 4–7) le dikamuso mo bekeng nngwe le 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?

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

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## 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 3: Dipaterone, Ditiro le Alejibora

Ura e le 1

Kgweditharo 2 Beke 6 e tobile Dipaterone, Ditiro le Alejibora.

## Karolo 2 Thadiso ya diteng: Dipaterone, Ditiro le Alejibora

Lebelela Dipaterone, Ditiro le Alejibora mo thadisong ya diteng (*Kaedi ya Mogopolo*, Tsebe 125).



### Tirwana 12

1. Ke megopolo efe e e lebiwang mo Kgweditharong ya 2?

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2. Pharologano magareng ga diteng tsa Lenaneo la Dipalo le diteng tse PPKT ke efe?

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## Kgweditharo 2 Beke 6: Tlhalosa 2, kopolola le go atolosa dipaterone

Mo Thutanong ya 3, Dipaterone, Ditiro le Alejibora di ne di tobile go lemoga/go tthaola poeletso mo pateroneng. Gape re buisane ka ga pharologano magareng ga tatelano le paterone. Kgweditharo 2 Beke 6 e agelela mo diteng tse di tlhagisitsweng mo Kgweditharong ya 1 Beke 6.

Mo Kgweditharong 2 Beke 6 barutwana ba:

- ◆ tlhalosa dipoeletso mo dipateroneng tse di dirisang dilo, ditshwantsho le medumo.
- ◆ kopolola dipaterone tse bangwe ba di dirileng ka dilo, ditshwantsho le medumo.
- ◆ atolosa dipaterone tse bangwe ba di dirileng.
- ◆ tlhama dipaterone tsa bona mo maemong a a farologaneng a bothata jwa tsona jaaka:
  - sediko, khutlonne, sediko, khutlonne
  - sediko, khutlonne, khutlotharo, sediko, khutlonne2, khutlotharo
  - sediko, sediko, khutlonne, sediko, sediko, khutlonne
  - sediko se sehibidu, sediko se sebududu, khutlonne e e serolwana, sediko se sehibidu, sediko se sebududu, kutlonne e e serolwana.
- ◆ bua gore go tlhaelang fa karolo ya paterone e fitlhilwe.



### 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.

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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?

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## 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?

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2. What new knowledge is introduced in this week?

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3. What skills from previous weeks are practised?

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



### Tirwana 13

Lebelela Beke 6 mo *Kaeding ya Ditirwana: Kgweditharo 2* (ditsebe 104-119).

1. Buisanang ka ga gore ditirwana tsa phaposiborutelo yotlhe di tlhagisang dikamuso mo pateroneng.

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2. Buisa dikgato 5 le 6 tsa tirwana e e kaelwang ke morutabana mo tsebeng ya 117. Morutabana o thankgolola jang ditirwana le go kaela barutwana jang ka dipotso?

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### Kgweditharo 2 Khutshwafatso ya Diteng (Beke 6)



### Tirwana 14

Lebelela Mametlelelo A: Kgweditharo 2 Khutshwafatso ya Diteng tsa Beke le Beke (Dibeke 4–7). Buisa thadiso ya diteng tsa Beke 5: Dinomore, Ditiro le Dikamano mo tsebeng ya 19 ya *Kaedi ya Ditirwana: Kgweditharo 2*.

1. Dithogo tsa Beke 6 ke dife?

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2. Ke kitso efe e ntšhwa e e tlhagisitsweng mo bekeng eno?

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3. Ke dikgono dife tse di diragadiwang go tswa mo dibekeng tse di fetileng?

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4. Nyalanya ditirwana mo Mametlelelong A: Kgweditharo 2 Khutshwafatso ya Diteng tsa Beke le Beke (Dibeke 4–7) le dikamuso mo bekeng e nngwe le e 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?

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

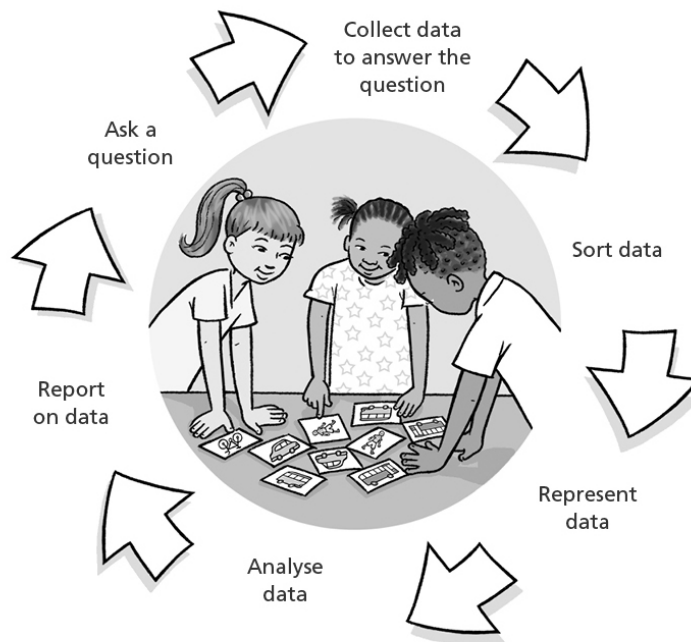
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## Data Handling

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 4: Go Ranola Tshedimisetso

Ura e le 1

Kgweditharo 2 Beke 7 e tobile Go Ranola Tshedimisetso.

## Karolo 2 Thadiso ya diteng: Go Ranola Tshedimisetso

Lebelela Go Ranola Tshedimisetso mo thadisong ya diteng (*Kaedi ya Mogopolo*, tsebe 137).



### Activity 15

1. Ke megopolo efe e e lebilweng mo Kgweditharong ya 2?

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2. Dipharologano magareng ga diteng tsa Lenaneo la Dipalo le diteng tsa PPKT?

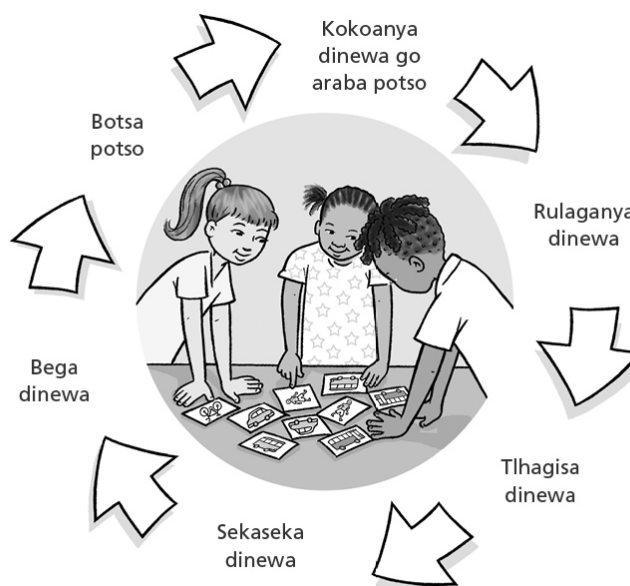
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## Go Ranola Tshedimisetso

Karoloteng ya Go Ranola Tshedimisetso e tobile maitlomo le tsamao ya go ranola tshedimisetso. E akaretsa tharabololo ya dipalo kgotsa go araba potso ka go kokoanya, go tlaola, go tlhagisa le go ranola dinewa.



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?'

Mo Mophatong wa R, barutwana ba tshwanetse go nna le ditšhono go tthaola dilo go ya ka ponagalo e le nngwe kgotsa di le dintsi, jaaka mmala, bogolo kgotsa popego. Go tthaola ke karolo ya Go Ranola Tshedimosetso, fela ga se gona fela go lebeleletsweng. Go botlhokwa go busetsa barutwana kwa potsong e e boditsweng ka gale le go ba gopotsa lebaka le le dirang gore ba bo ba kokoanya, ba tthaola le go akanya ka ga ditsela tsa go tthagisa dinewane.

Dipotso di botlhokwa mo Go Ranoleng Tshedimosetso, sk.:

- ◆ Ke ipotsa gore bontsi jwa barutwana bo rata senotsididi sefe?
- ◆ Re tshwanetse go kokoanya jang dinewa tsa rona?
- ◆ Re tshwanetse go tthaola dinewa jang?
- ◆ Re tshwanetse go tthagisa dinewa jang?



### Tirwana 16

Buisanang ka gore o ka rulaganya jang le go diragatsa tirwana ya Go Ranola Tshedimosetso e e ikaegileng ka dipotso tse di fa godimo. Rekota dikakanyo tsa gago mo pampiring ya tšhatephetogi.

### Go tthagisa dinewa

Barutwana ba Mophato R ba tlotlhomisa ditsela tse di farologaneng tsa go bontsha kgotsa go supa tshedimosetso e ba e kokoantseng. **Kerafotshwantsho** ke tsela ya go tthagisa dinewa ka go dirisa ditshwantsho. Mo tirwaneng yotlhe ya phaposiborutelo mo Letsatsing 3 la Beke 7, barutwana ba buisana ka gore ba tla sekolong jang. Morutwana mongwe le mongwe o neelwa sefatlhego se se nyebang se le mo **lenathwaneng le le tshwanang la pampiri**. Ba bontsha dinewa ka go baya ditshwantsho tsa bona mo kholomong go tthagisa mefuta e mene e e farologaneng ya dipalangwa. Go botlhokwa go baya dinewa mo dikholomong, **kwa ntle ga dibaka** magareng ga manathwana a pampiri. Dinewa di tthagitswe sentle le go ranolwa bonolo go araba potso: 'Bontsi jwa barutwana bo tla jang mo 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?

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2. What new knowledge is introduced in this week?

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3. What skills from previous weeks are practised?

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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.

## Kgweditharo 2 Khutshwafatso ya Diteng (Beke 7)



### Tirwana 17

Lebelela Mametlelelo A: Kgweditharo 2 Khutshwafatso ya Diteng tsa Beke le Beke (Dibeke 4–7). Buisa thadiso ya diteng tsa Beke 7: Go Ranola Tshedimosetso mo tsebeng 21 ya *Kaedi ya Ditirwana: Kgweditharo 2*.

1. Ditlhogo tsa Beke 7 ke dife?

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2. Ke kitso efe e ntšhwa e e tthagisitsweng mo bekeng eno?

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3. Ke dikgono dife tse di diragadiwang go tswa mo dibekeng tse di fetileng?

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4. Nyalanya ditirwana mo Mametlelelong A: Kgweditharo 2 Khutshwafatso ya Diteng tsa Beke le Beke (Dibeke Weeks 4–7) le dikamuso mo bekeng nngwe le nngwe.

5. Lebelela tirwana e e kaelwang ke morutabana mo Bekeng 7 (*Kaedi ya Ditirwana: Kgweditharo 2*, tsebe 133). Buisanang gore morutabana o kaela jang barutwana go tllaola diphologolo le go tthagisa dinewa mo 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.

# Ditirwana tsa tswalelo

Ura e le 1



**Tirwana18**

**Se o se ithutileng:** Akanya ka ga se o se ithutileng ka nako ya thutano mme o tlatse papetla.

Dilo tse ke setseng ke di dira mme di dira sentle	Dikakanyo tse dišwa tse ke ratang go di lekeletsa



## **Tirwana e o e busetsang kwa sekolong**

1. Tswelera go dirisa Rekoto ya Ditlhatlhobotsweledi mo Kaeding ya Ditirwana: Kgweditharo 2 go tlhatlhoba barutwana ba gago. Dirisa dintlha tsa gago tsa kelotlhoko e e tswelelang pele go kgobokanya bopaki jwa se barutwana ba se tlhaloganyang le se ba kgonang go se dira.
2. Tlhaola matshwenyego mangwe le mangwe a o nang le ona ka ga go tshwarelela megopolopalo ka gangwe go go itshupang ga morutwana ka esi.
3. Tlala ka dikhophi tsa diruburiki tse o di diriseditseng tlhatlhobo ya dipalo kwa thutanong e e latelang.
4. Tlala morutwana a le mongwe rekoto ya tlhatlhobo e e weditsweng kwa thutanong e e latelang.
5. Dirisa *Kaedi ya Ditirwana: Kgweditharo 2* go rulaganyetsa le go diragatsa Dibeke 4–7 tsa Lenaneo la Dipalo, go akaretsa go tlhama lefelo la dipalo le le tobileng mogoplo wa beke nngwe le nngwe.
6. Kwala dintlha ka ga se se dirileng sentle, se se sa dirang sentle le gore o ka dirang ka tsela e e farologaneng go tokafatsa go ruta le go ithuta.

## **Tlhatlhobo**

Tlatsa Foromo ya Tlhatlhobo.

## 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).			



## MAMETLELELO A KGWEDITHARO 2 KHUTSHWAFATSO YA DITENG TSA BEKE LE BEKE (DIBEKE 4-7)

### Kgweditharo 2: Thulaganyo ya Ditirwana

Beke 4				
<b>KAROLOTENG:</b> BOALO LE POPEGO (JEOMETERI)				
<b>SETLHOGO:</b> Boemo, tlwaetso le dipono; tthalosa, rulaganya le go bapisa dilo tsa 3-D				
<b>TLHAGISA KITSO E NTŠHWA:</b> Rulaganya dilo tsa 3-D go ya ka ditshwano le dipharologano, feta ka nngwe, tlase ka nngwe				
<b>IKATISE:</b> Go balela kwa godimo 1-15 le 5-1, go bala dilo 1-7, mogopolopalo 1-4, go gatelela dipopego tsothle				
Ditirwana tsa phaposiborutelo yotlhe		Tirwana e e kaelwang ke morutabana	Ditirwana tsa Seteišenetiro	
<b>Letsatsi 1</b>	Go gatelela dipopego tsothle/go tsoma dipopego.	Ikatisetse 1-4. Go tthalosa selo go tswa mo boemong jo bo farologaneng. Go ikatisetsa dipopego le maemo.	<b>Tirwana 1</b>	Sediko/khutlonne/khutlotharo gape e ka nna ... (tlhama setshwantsho).
<b>Letsatsi 2</b>	Kgetsanakgomô -kgoma dipopego tse di farologaneng mme o di tthalose.		<b>Tirwana 2</b>	Dira dipopego ka go dirisa disegakuku le tege ya go tshameka.
<b>Letsatsi 3</b>	Batla dipopego mo phaposiborutelong ka go dirisa mafoko a boemo.		<b>Tirwana 3</b>	Kago ya diboloko – dirisa diboloko/Dibolokokgogedi. Diphazele (dikarolwana di le 12 bonnye).
<b>Letsatsi 4</b>	Matseka a dipopego. Feta ka nngwe, tlase ka nngwe.		<b>Tirwana 4</b>	
<b>Letsatsi 5</b>	Kaelo le boemo. Sebakakgoreletso			
Beke 5				
<b>KAROLOTENG:</b> DINOMORE, DITIRO LE DIKAMANO				
<b>SETLHOGO:</b> Lemoga matshwaopalo le mafokopalo; tthalosa, rulaganya le go bapisa dinomore				
<b>TLHAGISA KITSO E NTŠHWA:</b> Tlhagisa nomore 5				
<b>IKATISE:</b> Go balela kwa godimo 1-15, go bala dilo 1-7, go balela kwa morago go tloga ka 5 (merumo), go gatelela mogopolopalo 1-4, go latedisanya dinomore 1-4, feta/mmalwanyana				
Ditirwana tsa phaposiborutelo yotlhe		Tirwana e e kaelwang ke morutabana	Ditirwana tsa Seteišenetiro	
<b>Letsatsi 1</b>	Tlhagisa 5 (dikgabo tse 5 mo ntlong ya botlhano).	Nyalanya matshwaopalo, mafokopalo le dikaratapalo (4 le 5). Go bala 1-7. Go lekanyetsa le go bala. Dibaga tsa dikago. Tlhagiso e e farologaneng ya nomore e le nngwe.	<b>Tirwana 1</b>	Mmetshe wa tege ya go tshameka 5.
<b>Letsatsi 2</b>	Go gatelela 4 le 5 (matshwaopalo le mafokopalo).		<b>Tirwana 2</b>	Dinomore tsa podile-kgwana (kgokolosa palo e e nepagetseng ya dibolo tsa pampiri).
<b>Letsatsi 3</b>	Go balela kwa pele le kwa morago. Molapalo.		<b>Tirwana 3</b>	Go nyalanya dinomore – diphekese. Diphazele tsa dinomore go fitlha ka 5 (ka go dirisa mafokopalo).
<b>Letsatsi 4</b>	Go gatelela 4 le 5.		<b>Tirwana 4</b>	
<b>Letsatsi 5</b>	Go gatelela dinomore 1-5 (go lemoga dikaratarontho, matshwaopalo, mafokopalo).			

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.	<b>Activity 1</b> <b>Activity 2</b> <b>Activity 3</b> <b>Activity 4</b>	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.			
Day 3	Problem solving using patterns.			
Day 4	Making patterns using everyday objects.			
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.	<b>Activity 1</b> <b>Activity 2</b> <b>Activity 3</b> <b>Activity 4</b>	Cutting and sorting transport pictures. Sorting waste objects. Shape graph (use cut out shapes). Sorting by colour.
Day 2	Sorting game. Poster 8.			
Day 3	Pictograph: How do you get to school?			
Day 4	Discuss Day 3 results (asking questions).			
Day 5	Collect and sort classroom objects.			

Beke 6				
KAROLOTENG: DIPATERONE, DITIRO LE ALEJIBORA				
SETLHOGO: Kopolola le go atolosa dipaterone tse di bonolo tse di ipoeletsang; itlhamela dipaterone; tlhalosa poeletso mo dipateroneng				
TLHAGISA KITSO E NTŠHWA: Kopolola le go atolosa dipaterone tse di bonolo tse ipoeletsang, itlhamela le go tlhalosa paterone, go balela kwa godimo 1-20, go balela kwa morago go tloga ka 7				
IKATISE: Go latedisanya dinomere 1-5, go bala dilo 1-7, go tshwantsha ditlhopha				
Ditirwana tsa phaposiborutelo yotlhe		Tirwana e e kaelwang ke morutabana	Ditirwana tsa Seteišenetiro	
Letsatsi 1	Dipaterone tse di tshwaregang.	Go tota mogopolopalo 1-5. Tshikhinya o bo o thube. Dira ditlhopha tse di lekanang. Dipaterone le molekane. Dibolokokogedi.	Tirwana 1	Katoloso ya paterone – go thala le go khalara. Dipaterone tsa dinoga – ka go dirisa dipopego. Dikaratapaterone – ka go dirisa Dibolokokogedi. Dipaterone tsa go loga ka dibaga.
Letsatsi 2	Go tlhaola dipaterone mo dilong tse di tlwaelegileng.			
Letsatsi 3	Go rarabolola dipalo ka go dirisa dipaterone.			
Letsatsi 4	Go dira dipaterone ka go dirisa dilo tse di tlwaelegileng.			
Letsatsi 5	Dipaterone tsa modumo.			
Beke 7				
KAROLOTENG: GO RANOLA TSHEDIMOSETSO				
SETLHOGO: Kokoanya le go rulaganya dilo; tlhagisa dilo tse di kokoantsweng le go rulaganngwa; buisana le go bega ka ga dilo tse di kokoantsweng le go rulaganngwa				
TLHAGISA KITSO E NTŠHWA: Thala setshwantsho sa dilo tse di kokoantsweng, araba dipotso ka ga setshwantsho sa gago				
IKATISE: Go balela kwa godimo 1-20 le kwa morago go tloga ka 7, go bala dilo 1-7, feta/tlase/lekana le, mogopolopalo 1-5, go rulaganya le go arologanya				
Ditirwana tsa phaposiborutelo yotlhe		Tirwana e e kaelwang ke morutabana	Ditirwana tsa Seteišenetiro	
Letsatsi 1	Kokoanya le go rulaganya dilo (tse di kgolokwe kgotsa tse di khutlonne).	Go lekanyetsa. Go bala. Go rulaganya diphologolo tse di kokoantsweng. Kerafotshwantsho: feta/tlase. Go botsa dipotso.	Tirwana 1	Go segolola le go rulaganya ditshwantsho tsa dipalangwa. Go rulaganya dilo tse di latlhilweng. Kerafo ya dipopego (dirisa dipopego tse di segolotsweng). Go rulaganya ka mmala.
Letsatsi 2	Motshameko wa go rulaganya. Phousetara 8.			
Letsatsi 3	Kerafotshwantsho: O ya jang kwa sekolong?			
Letsatsi 4	Dipegelo tsa Puisano ya Letsatsi la 3 (go botsa dipotso).			
Letsatsi 5	Kokoanya le go rulaganya dilo tsa phaposiborutelo.			

# Workshop 5 Evaluation Form

1. Did the workshop meet your expectations?

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

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

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

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

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# Foromo ya Tlhatlhubo ya Thutano 5

1. A thutano e kgonne go fitlhelela ditsholofelo tsa gago?

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2. Ke eng se o se ithutileng mo thutanong eno se se go thusitseng go gaisa?

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3. A go na le sengwe se o sa se ratang kgotsa se se neng se go thatafalela?

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4. O ya go diragatsa jang se o se ithutileng mo phaposiborutelong ya gago ya Mophato wa R?

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5. A go na le se o se tshikhinyang go ka thusa go tokafatsa dithutano tse di latelang?

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