

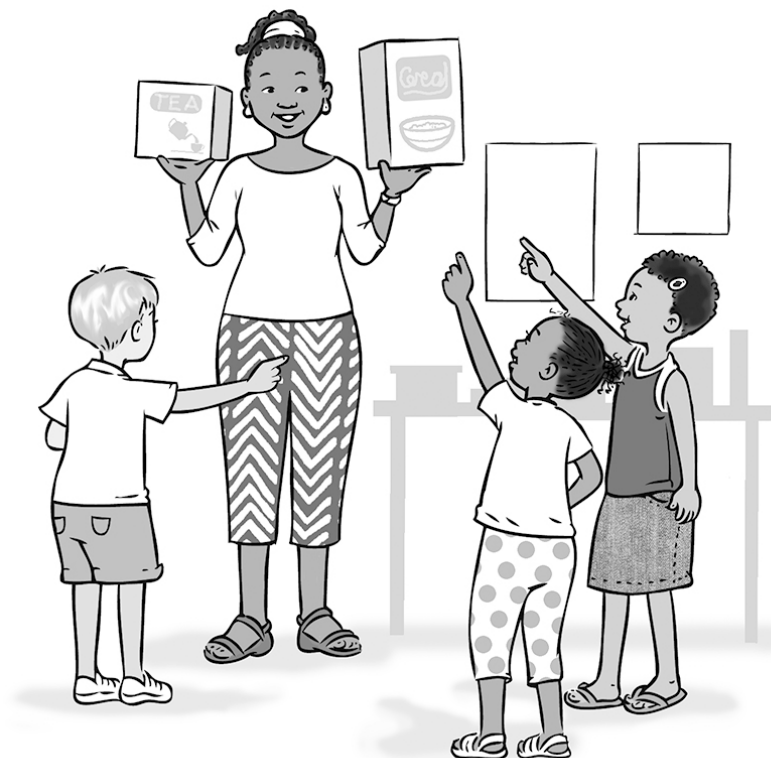


GAUTENG PROVINCE
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GROWING GAUTENG TOGETHER

Setswana/English

Lenaneotokafatso la Dipalo tša Mophato R Grade R Mathematics Improvement Programme



**Thutano 5 • Workshop 5
Kaedi ya Mofatlhosi • Facilitator's Guide**

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.

Porojeke ya Lenaneotokafatso la Dipalo le Puo tsa Mophato wa R e laolwa ke **JET Education Services** mmogo le **Schools Development Unit** ya **UCT** le **Wordworks** jaaka badirisani ba setegeniki.

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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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 bothano 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 (Jeometeri); Dinomore, Ditiro le Dikamano; Dipaterone, Ditiro le Alejibora; le Go Ranola Tshedimosetso)
- ◆ 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 (Jeometeri) (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 Tshedimosetso (Ura e le 1)
 - ◆ Ditirwana tsa tswalelo (Ura e le 1)

Preparation

- ◆ PPT welcome and outcomes
- ◆ Read:
 - Concept Guide*, pages 114–131 and 136–137
 - Activity Guide: Term 2*, pages 18–21 and pages 70–137
 - Appendix A: Term 2 Weekly Content Summary (Weeks 4–7)
- ◆ Bring a large toy, e.g. a car, a doll.
- ◆ PPT: Data Handling cycle (from Workshop 4).
- ◆ For Session 4, prepare a pictograph chart, 'How did you travel to this workshop?' with picture cards for 'taxi', 'car', 'walk' and 'other' and 'smiley face' cards for each participant.

Materials

- ◆ Flipchart paper, kokis
- ◆ *Resource Kit* for each group
- ◆ *Concept Guide*
- ◆ Collection of 3-D objects for each group (Session 2)
- ◆ Washing line and pegs for each group (Session 2)

Ipaakanyo

- ◆ PPT kamogelo le dipoelo
- ◆ Buisa:
 - Kaedi ya Mogopolo*, ditsebe 114–131 le 136–137
 - Kaedi ya Ditirwana: Kgweditharo 2*, ditsebe 18–21 le ditsebe 70–137
 - Mametlelelo A: Kgweditharo 2 Khutshwafatso ya Diteng tsa Beke le Beke (Dibeke 4–7)
- ◆ Tlaya le setshamekisi se segolo, sk. koloi, mpopi.
- ◆ PPT: Tsheko ya go Ranola Tshedimosetso (go tswa mo Thutanong 4).
- ◆ Baakanyetsa karolo 4 tšhate ya kerafotshwantsho, 'O tsamaya jang kwa thutanong eno?' ka dikaratatshwantsho tsa 'thekesi', 'koloi', 'dinao' le 'e nngwe' le dikarata tsa 'sefatlhego sa monyebo' sa motsayakarolo mongwe le mongwe.

Didiriswa

- ◆ Pampiri ya tšhatephetogi, dikhokhi
- ◆ *Kgetsana ya Didiriswa* ya setlhophha sengwe le sengwe
- ◆ *Kaedi ya Mogopolo*
- ◆ Dilo tsa 3-D tse di kokoantsweng tsa setlhophha sengwe le sengwe (Karolo 2)
- ◆ Mola wa wašene le diphekese tsa setlhophha sengwe le sengwe (Karolo 2)

Opening and reflection

1 hour

Facilitator's notes

- ◆ PPT: Open the session and read through the agenda and learning outcomes for the workshop.
- ◆ Remind participants of the *Take back to school* task from the end of Workshop 4.
- ◆ Ask participants to reflect on their observations and assessment of learners, and how they have been implementing the Maths Programme in their classrooms. Discuss what is working well and any concerns that participants may have.

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*?

Dintlha tsa mofatlhosi

- ◆ PPT: Bula karolo mme o buise letema le dipoelothuto tsa thutano.
- ◆ Gopotsa batsayakarolo ka ga *Tirwana e o e busetsang kwa sekolong* go tswa kwa bokhutlong jwa Thutano 4.
- ◆ Kopa batsayakarolo go sedisisa dikelotlhoko tsa bona le tlhatlhobo ya barutwana, le ka moo ba ntseng ba diragatsa Lenaneo la bona la Dipalo mo diphaposiborutelong tsa bona. Buisanang ka ga se se dirang sentle le matshwenyego a batsayakarolo ba ka tswang ba na le ona.

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.

Sedisisa 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?

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

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*?



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.

Facilitator's notes

- ◆ PPT: Summary of notes on rubrics, and Figure 39 and 40 of the *Concept Guide* (pages 106–109).
- ◆ Encourage participants to share their methods of assessment and how they use rubrics. Ask each group to write notes on flipchart paper and present these after **Activity 2**.
- ◆ Refer to the School Based Assessments (SBA) and SA-SAMS online systems to find out how participants engage with these.
- ◆ Remind participants of the **level principle** and discuss how they manage learners with different abilities.



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 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.

Dintlha tsa mofatlhosi

- ◆ PPT: Khutshwafatso ya dintlha mo ruburiking, le Setshwantsho 39 le 40 tsa *Kaedi ya Ditirwana* (ditsebe 106–109).
- ◆ Rotloetsa batsayakarolo go arogana mekgwa ya bona ya tthatlhobo le ka moo ba dirisang diruburiki. Kopa setlhophha sengwe le sengwe go kwala dintlha mo pampiring ya tshatephetogi le go di tthagisa morago ga **Tirwana 2**.
- ◆ Lebelela matlhamaganyane a maranyane a Ditlhatlhobo tsa kwa sekolong (SBA) le SA-SAMS go bona gore batsayakarolo ba dira tseno jang.
- ◆ Gopotsa batsayakarolo ka ga **molawana wa maemo** mme lo buisane ka gore ba kgonana le barutwana ba bokgoni jo bo farologaneng jang.



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 setlhophha sotlhe. Dirisa tse di dirang sentle le moo o nang le dikgwetlho ka tthatlhobo.

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

Facilitator's notes

- ◆ This workshop focuses on teaching the content of Term 2 Weeks 4–7. The Content Area Focus of Week 4 is Space and Shape (Geometry). Remind participants that this was also the focus of Term 2 Week 3 (covered in Workshop 4).
- ◆ Refer participants to pages 126–131 of the *Concept Guide*.
- ◆ Ask participants to work in groups to complete **Activity 3**.

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?

Facilitator's notes

- ◆ Ensure that participants identify the Space and Shape concepts in 3.1 and 3.2 and understand that the focus is on: position, orientation and views; describing 3-D objects in relation to themselves; following directions.
- ◆ In **Activity 4** the focus is on describing an object from different positions (views).
- ◆ In step 1 of **Activity 4**, show the participants the toy car or doll that you brought along (or a shoe or mug). Ask them to look at the object from different positions and to describe what they see. Ask them where they are in relation to the object e.g. *in front of, behind, next to, underneath, above*.

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.

Karolo 1: Boalo le Popego (Jeometeri)

Ura e le 1

Dintlha tsa mofatlhosi

- ◆ Thutano eno e tobile go ruta diteng tsa Kgweditharo 2 Dibeke 4–7. Karoloteng ya Beke 4 e tobile Boalo le Popego (Jeometeri). Gopotsa batsayakarolo gore seno e ne e le se se totilweng mo Kgweditharong 2 Beke 3 (di lebeletswe mo Thutanong ya 4).
- ◆ Kopa batsayakarolo go lebelela ditsebe 126–131 tsa *Kaedi ya Mogopolo*.
- ◆ Kopa batsayakarolo go dira ka ditlhopho go wetsa **Tirwana 3**.

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 wetsa Tirwana 3.



Tirwana 3

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

Dintlha tsa mofatlhosi

- ◆ Netefatsa gore batsayakarolo ba tlaola megopolo ya Boalo le Popego mo 3.1 le 3.2 le go tthaloganya gore go tobilwe: boemo, tlwaetso le dipono; go tthalosiwa dilo tsa 3-D ka moo di amanang ka teng; go latela dintlhakaelo.
- ◆ Mo **Tirwaneng 4**, go tobilwe go tthalosa selo go tswa mo boemong (dipono) jo bo farologaneng.
- ◆ Mo kगतong ya 1 ya **Tirwana 4**, bontsha batsayakarolo koloi ya setshamekisi kgotsa mpopi o o tllileng ka ona (kgotsa setlhako kgotsa kopi). Ba kope go lebelela selo go tswa mo boemong jo bo farologaneng le go tthalosa se ba se bonang. Ba botse gore ba fa kae ba ikaegile ka selo sk. *fa pele ga, mo morago, gaufi le, ka fa tlase, mo godimo*.

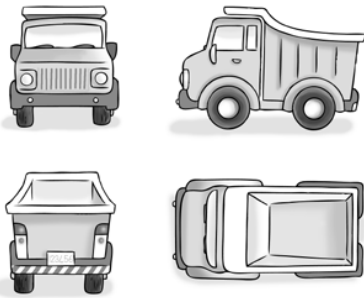
Mo Mophatong wa R, barutwana ba tthalosa, ba tlaola, le go bapisa dilo tsa 3-D le go tota ditshwano le dipharologano magareng ga tsona. Mo Kgweditharong ya 2 Beke 4 barutwana ba tlaola, bapisa le go tthalosa dilo tsa 3-D go ya ka bogolo, mmala le popego. Gape ba lebelela dilo le go di tthalosa ba lebile 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.



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.

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



In front of the truck, looking at the side of the truck, behind the truck, looking down on the truck (from above).

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?

Position, orientation, views: objects look different when viewed from different positions.

Position vocabulary: *front, back, side, above, below, underneath*.

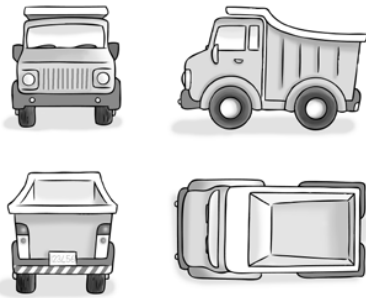
Sorting and identifying shapes.



Tirwana 4

1. Tlhalosa 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.

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



Fa pele ga llori, o lebeletse letlhakore la yona, fa morago ga llori, o e lebeletse kwa tlase (go tswa kwa godimo).

Kgweditaro 2 Beke 4

Lebelela tirwana e e kaelwang ke morutabana mo ditsebeng 80–83 tsa *Kaedi ya*

Ditirwana: Kgweditaro 2.



Tirwana 5

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

Tlwaetso ya boemo, dipono: dilo di lebega di farologane fa di lebiwa go tswa mo boemong jo bo farologaneng.

Tlotlofoko ya boemo: *pele, morago, thoko, godimo, tlase, ka fa tlase.*

Go rulaganya le go tthaola dipopego.

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?
-
-
-

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)

Facilitator's notes

- ◆ By this stage, participants will have engaged with the Weekly Content Summaries in previous workshops. It is important that they make the connection between the CAPS content, planning for a week and the activities for the small group sessions.
- ◆ Remind participants that they also need to plan free choice activities that are linked to the concepts being taught in the week.

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?
-
-
-

Barutwana ba tlhoka ditšhono tse dintsi go tshameka ka dilo tse di kokoantsweng tsa 3-D le go di rulaganya. Barutabana ba tlhoka go tlhaloganya megopolo e e fitlhegileng mo Boalong le Popego (Jeometeri) le go di tlhaeletsa 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 tlhaola 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 tlhaloganya gore madilo a dilo tsa 3-D a lebega e kete dipopego tsa 2-D.

Molawana wa tirisano: Go ithuta go akaretsa tlhaeletsano le thefosano ya dikakanyo. Go tsibogela sengwe ka tsela e e maleba ke karolo e e botlhokwa tota ya tlhaeletsano 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)

Dintlha tsa mofatlhosi

- ◆ Mo nakong e, batsayakarolo ba tshwanetse ba bo ba setse ba mekamekane le Dikhutshwafatso tsa Diteng tsa Beke le Beke mo dithutanong tse di fetileng. Go botlhokwa gore ba kgone go golaganya diteng tsa PPKT, go rulaganyetsa beke le ditirwana tsa ditlhopho tse dinnye.
- ◆ Gopotsa batsayakarolo gore gape ba tlhoka go rulaganya ditirwana tsa go itlhophela ka tokologo tse di golaganeng le megopolo e e rutilweng mo bekeng.



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?



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 (Jeometeri) mo tsebeng 10 ya *Kaedi ya Ditirwana: Kgweditharo 2*.

1. Ditlhogo tsa Beke 4 ke dife?

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

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

Session 2: Numbers, Operations and Relationships

1 hour

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

Facilitator's notes

- ◆ Explain that the focus in Term 2 Week 5 is on Numbers, Operations and Relationships again. Remind participants that this was also the focus of Term 2 Weeks 1 and 2 (covered in Workshop 4).
- ◆ Refer participants to pages 114–123 of the *Concept Guide*.
- ◆ Ask participants to work in groups to complete **Activity 7**.

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?

4 and 5

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.

Facilitator's notes

- ◆ Ask participants to think back to how they introduced numbers in previous weeks.
- ◆ Reflect on how the same routine is used to introduce each new number. Explain that the number 'five' is introduced in Term 2 Week 5 using the same routine as before. Discuss how this routine actively engages learners in learning about the concept of number.
- ◆ Refer participants to page 90 of *Activity Guide: Term 2*.
- ◆ Let them complete **Activity 8** in groups and then report back.

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

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

Dintlha tsa mofatlhosi

- ◆ Tlhalosa gore Kgweditharo 2 Beke 5 e tobile Dinomore, Ditiro le Dikamano gape. Gopotsa batsayakarolo gore Kgweditharo 2 Dibeke 1 le 2 le tsona di ne di tobile seno (di lebilwe mo Thutanong ya 4).
- ◆ Kopa batsayakarolo go lebelela ditsebe 114–123 tsa *Kaedi ya Mogopolo*.
- ◆ Kopa batsayakarolo go dira ka ditlhopho go dira **Tirwana 7**.

Karolo 2 Thadiso ya diteng: Dinomore, Ditiro le Dikamano

Dithutano tse di fetileng di tthagisitse Karoloteng e e Lebeleletsweng: 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 tthagisitsweng mo Kgweditharong ya 2?

4 le 5

Kgweditharo 2 Beke 5: Go ruta nomore

Nomere 'tlhano' e tthagisitswe 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 tthagisa nomore nngwe le nngwe o dira gore barutwana ba nne mo moetlong o o tlwaelegileng, o o bonelwang pele, o o kgalhisang le go tthagisa nomore ka ditsela tse di farologaneng.

Dintlha tsa mofatlhosi

- ◆ Kopa batsayakarolo go akanya gape ka ga gore ba tthagisitse jang dinomore mo dibekeng tse di fetileng.
- ◆ Sedisisa ka ga moo moetlo o le mongwe o dirisitsweng ka teng go tthagisa nomore nngwe le nngwe e ntšhwa. Tlhalosa gore nomere 'tlhano' e tthagisitswe mo Kgweditharong 2 Beke 5 ka go dirisa moetlo o o tshwanang le wa pele. Buisanang ka gore moetlo ono o dirang gore barutwana ba nne matlhagatlhaga fa ba ithuta ka ga mogopolo wa nomore.
- ◆ Kopa batsayakarolo go lebelela tsebe 91 ya *Kaedi ya Ditirwana: Kgweditharo 2*.
- ◆ A ba dire **Tirwana 8** ka ditlhopho mme morago ba bege.

- ◆ Make sure that the following points about the routine are mentioned:
 - A story is told about an animal/s and used to build the number frieze.
 - Objects are collected to represent the number and put on the table in the maths area.
 - Learners match the number symbol and number word to dot cards, and also use a combination of dot cards to make the number.
 - Learners use body movements to dramatise the story.
 - The *Poster Book* provides opportunities to count and solve problems in context.
- ◆ The order of the items in the routine may change, but each week these aspects of introducing a number are included in the whole class activities.



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

Day 3

Day 4

Day 5

- ◆ Netefatsa gore dintlha tse di latelang ka ga meetlo di umakilwe:
 - Kanelo e anegilwe ka ga di/phologolo le go dirisiwa go aga nomorekgabisi.
 - Dilo di kokoantswe go tshagisa nomore le go bewa mo tafoleng mo lefelong la dipalo.
 - Barutwana ba nyalanya letshwaopalo le lefokopalo mmogo le dikarataronho, gape le go dirisa dikarataronho tse di kopantsweng go dira nomore.
 - Barutwana ba dirisa metshikhinyego ya mmele go diragatsa kanelo.
 - *Buka ya Diphousetara* e tlamela ka ditshono go bala le tharabololo ya dipalo mo bokaelong.
- ◆ Thulaganyo ya dilwana mo moetlong e ka fetoga, fela beke nngwe le nngwe dintlha tseno tsa go tshagisa nomore di akareditswe mo ditirwaneng tsa phaposiborutelo yotlhe.



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

Letsatsi 2

Letsatsi 3

Letsatsi 4

Letsatsi 5

The number washing line

Facilitator's notes

- ◆ Find out if participants have set up number washing lines in their classrooms.
- ◆ Review the importance of the number washing line activities in helping learners to build an understanding of the sequence of counting words and the relationship between numbers.

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.

Facilitator's notes

- ◆ Demonstrate how to use the number washing line.
- ◆ Refer participants to the washing line activity on page 94 of *Activity Guide: Term 2*.

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

Video 2

Activity Guide: Term 2, Week 5, Day 3 #4 (page 94)

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.

Mogala wa dinomore

Dintlha tsa mofatlhosi

- ◆ Tlhotlhomisa gore a batsayakarolo ba tthamile megala ya dinomore mo diphaposiborutelong tsa bona.
- ◆ Leba bothlokwa jwa ditirwana tsa megala ya dinomore sešwa mo go thuseng barutwana go aga go tlhaloganya tatelano ya mafoko a go bala le kamano magareng ga 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 mojang, le gore di fokotsega jang go tswa mojang 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.

Dintlha tsa mofatlhosi

- ◆ Bontsha gore mogala wa dinomore o dirisiwa jang.
- ◆ Kopa batsayakarolo go lebelela tirwana ya mogala mo tsebeng ya 95 ya *Kaedi ya Ditirwana: Kgweditharo 2*.

Buisa tirwana e e tlhagisetang barutwana mogala mo tsebeng ya 95 ya *Kaedi ya Ditirwana: Kgweditharo 2*.



Kaedi ya Ditirwana: Kgweditharo 2, Beke 5, Letsatsi 3 #4 (tsebe 95)

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.

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).

Facilitator's notes

- ◆ Discuss the 10-bead structure (five beads, five fingers). Demonstrate the use of a string of beads.
- ◆ Ask participants to take a set of 10 structure beads from the table.
- ◆ Using the information below, discuss the purpose of structure 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.

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

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).

Dintlha tsa mofatlhosi

- ◆ Buisanang ka ga dibaga tse di lesome tsa dikago (dibaga tse tlhano, menwana e metlhano). Supa tiriso ya mogala wa dibaga.
- ◆ Kopa batsayakarolo go tsaya sete ya dibaga tsa dikago di le 10 go tswa mo tafoleng.
- ◆ Ka go dirisa tshedimose tso e e fa tlase, buisanang ka ga maitlomo a dibaga tsa dikago.

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 tsewelele 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 tlotlhomisa 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.

Facilitator's notes

- ◆ Explain that participants will now work with their beads and that they should follow your directions and write down their responses.
- ◆ Ask them to work in groups to complete **Activity 10**.



Activity 10

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

Learners begin to show a total number of beads (e.g. 3) without having to count in ones.

They are able to show 'one more' or 'one fewer' than a stated amount without counting.

Learners recognise that one number is made up of different combinations of numbers (e.g. 5 consists of 2 and 3, or 1 and 2 and 2).

They begin to use the language of addition and subtraction and apply the concepts to combine/separate groups without counting.

The structure beads provide a physical experience of the total number of beads.



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 go 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.

Dintlha tsa mofatlhosi

- ◆ Tlhalosa gore batsayakarolo jaanong ba tlaa dira ka dibaga tsa bona le gore ba tshwanetse go latela dikaelo tsa gago le go kwala ditsibogo tsa bona.
- ◆ Ba kope go dira ka ditlhopho go dira **Tirwana 10**.



Tirwana 10

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

Barutwana ba simolola go bontsha palogotlhe ya dibaga (sk. 3) kwa ntle ga gore ba bale ka bonngwe. Ba kgona go bontsha 'feta ka nngwe' kgotsa 'kwa tlase ka nngwe' go na le palo e e builweng kwa ntle ga go bala.

Barutwana ba lemoga gore nomore e le nngwe e dirilwe ka kopano e e farologaneng ya dinomore (sk. 5 e dirwa ke 2 le 3, kgotsa 1 le 2 le 2).

Ba simolola go dirisa puo ya go tlhakanya le go ntsha le go diragatsa megopolo go kopanya/arologanya ditlhopho kwa ntle ga go bala.

Dibaga tsa dikago di tlamela ka maitemogelo a a tshwaregang a palogotlhe ya dibaga.

Facilitator's notes

- ◆ Discuss the importance of planning in order to allow learners enough time to practise their new skills and knowledge (the **practice principle**).

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.

Term 2 Content Summary (Week 5)

Facilitator's notes

- ◆ Remind participants that they also need to plan free choice activities that are linked to the concepts being taught in the week.



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.

Dintlha tsa mofatlhosi

- ◆ Buang ka ga botlhokwa jwa go ithulaganya le go letla barutwana go nna le nako e e lekaneng ya go diragatsa dikgono tsa bona tse dišwa le kitso (**molawana wa tiragatso**).

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.

Kgweditharo 2 Khutshwafatso ya Diteng (Beke 5)

Dintlha tsa mofatlhosi

- ◆ Gopotsa batsayakarolo gore le bona ba tlhoka go rulaganya ditirwana tsa go itlhophela ka tokologo tse di golaganeng le megopolo e e rutiwang mo bekeng.



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?

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

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

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.

Facilitator's notes

- ◆ Explain that the focus in Term 2 Week 6 is on Patterns, Functions and Algebra. Remind participants that this was also the focus of Term 1 Week 6 (covered in Workshop 3).
- ◆ Refer participants to page 124 of the *Concept Guide*.
- ◆ Ask participants to work in groups to complete **Activity 12**.

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:

Karolo 3: Dipaterone, Ditiro le Alejibora

Ura e le 1

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

Dintlha tsa mofatlhosi

- ◆ Tlhalosa gore Kgweditharo 2 Beke 6 e tobile Dipaterone, Ditiro le Alejibora. Gopotsa batsayakarolo gore seno se ne se tobilwe mo Kgweditharong 1 Beke 6 (se se dirilweng mo Thutanong 3).
- ◆ Kopa batsayakarolo go lebelela tsebe 125 ya *Kaedi ya Ditirwana*.
- ◆ Kopa batsayakarolo go dira ka ditlhophha go wetsa **Tirwana 12**.

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?

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

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:

- 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.

Facilitator's notes

- ◆ Think back to Workshop 3: Identifying patterns. Use the attribute blocks and the *Poster Book*. Discuss the difference between a sequence of objects, pictures or events, and what makes a pattern. Remind participants that a pattern requires the repeating of a sequence. Demonstrate this aspect.
- ◆ Have participants work in groups to complete **Activity 13**.



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.

Identifying patterns, using whole body, identifying patterns in the *Poster Book* picture.
Copy and extend own and others' patterns.
Explain why it is a pattern or not a 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)

Facilitator's notes

- ◆ Ensure that participants make the connection between CAPS and the weekly planning for Week 6, e.g. the Topic and Term 2 content are from CAPS, with some additional content added for the Maths Programme.
- ◆ Discuss why number is also included in a week where the focus is Patterns, Functions and Algebra. Explain that although the content focus is on pattern, we need to practise number every day through whole class and teacher-guided activities.
- ◆ Remind participants to include all concepts incidentally during the daily programme, e.g. the sequence of activities in the daily programme and days of the week are measurement concepts (time), while lining up – first, second, third – are number concepts (ordinal numbers).

- 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 tlaelang fa karolo ya paterone e fitlilwe.

Dintlha tsa mofatlhosi

- ◆ Akanyetsa kwa Thutanong ya 3: Go tlaola dipaterone. Dirisa diboloko ponagalo le Buka ya Diphousetara. Buisanang ka dipharologano magareng ga tatelano ya dilo, ditshwantsho kgotsa ditiragalo, le gore ke eng se se dirang paterone. Gopotsa batsayakarolo gore paterone e tlhoka poeletso ya tatelano. Diragatsa ntlha eno.
- ◆ A batsayakarolo ba dire ka ditlhopho go dira **Tirwana 13**.



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.

Go tlaola dipaterone, ka go dirisa mmele otlhe, go tlaola dipaterone mo setshwantshong sa *Buka ya Diphousetara*.

Kopolola le go atolosa dipaterone tsa gago le tsa ba bangwe.
Tlhalosa gore goreng e le paterone kgotsa e se yona.

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?

Kgweditharo 2 Khutshwafatso ya Diteng (Beke 6)

Dintlha tsa mofatlhosi

- ◆ Netefatsa gore batsayakarolo ba dira kgolagano magareng ga PPKT le thulaganyo ya beke le beke ya Beke 6, sk. setlhogo le diteng tsa Kgweditharo 2 di tswa mo PPKT, moo diteng dingwe tsa tlaleletso di tsenyeditsweng Lenaneo la Dipalo.
- ◆ Buisanang gore ke goreng nomore le yona e akareditswe mo bekeng moo go tobilweng Dipaterone, Ditiro le Alejibora. Tlhalosa gore le fa diteng di lebeletse paterone, re tlhoka go diragatsa nomore letsatsi le letsatsi ka ditirwana tsa phaposiborutelo yotlhe le tse di kaelwang ke morutabana.
- ◆ Gopotsa batsayakarolo go akaretsa megopolo yotlhe mo lenaneong la letsatsi le letsatsi, sk. tatelano ya ditirwana mo lenaneong la letsatsi le letsatsi le malatsi a beke ke megopolo ya tekanyo (nako), fa di tlhomagane – ya ntlha, ya bobedi, ya boraro – ke megopolo ya dinomore (dipalokemotatelano).



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.



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. Ditlhogo tsa Beke 6 ke dife?

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

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

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.

Facilitator's notes

- ◆ Explain that the focus in Term 2 Week 7 is on Data Handling. Remind participants that this was also the focus of Term 1 Week 10 (covered in Workshop 4).
- ◆ Refer participants to page 136 of the *Concept Guide*.
- ◆ Ask participants to work in groups to complete **Activity 15**.

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?

Facilitator's notes

- ◆ Explain to participants that the Data Handling Content Area for Grade R focuses on the purpose and process of data handling. It involves solving a problem or answering a question by collecting, sorting, representing and interpreting data.
- ◆ Collecting and sorting (classifying) data is only part of the data handling process. If teachers do not keep the focus on answering the question, the activity is simply about sorting.
- ◆ Direct participants to follow the data handling process and name the different steps in the process:
 1. Pose a question.
 2. Collect the data (discuss the best way of doing this).
 3. Sort the data.
 4. Represent that data.
 5. Analyse the data.
 6. Report on the data (answer the question).
- ◆ Let participants to work in groups to complete **Activity 16**.
- ◆ Ask one group to present their activity.

Karolo 4: Go Ranola Tshedimosetso

Ura e le 1

Kgweditharo 2 Beke 7 e tobile Go Ranola Tshedimosetso.

Dintlha tsa mofatlhosi

- ◆ Tlhalosa gore Kgweditharo 2 Beke 7 e tobile Go Ranola Tshedimosetso. Gopotsa batsayakarolo gore seno e ne e le se se tobilweng ke Kgweditharo 1 Beke 10 (e lebeletswe mo Thutanong 4).
- ◆ Kopa batsayakarolo go lebelela tsebe 137 ya *Kaedi ya Mogopolo*.
- ◆ Kopa batsayakarolo go dira ka ditlhopho go dira **Tirwana 15**.

Karolo 2 Thadiso ya diteng: Go Ranola Tshedimosetso

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



Activity 15

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

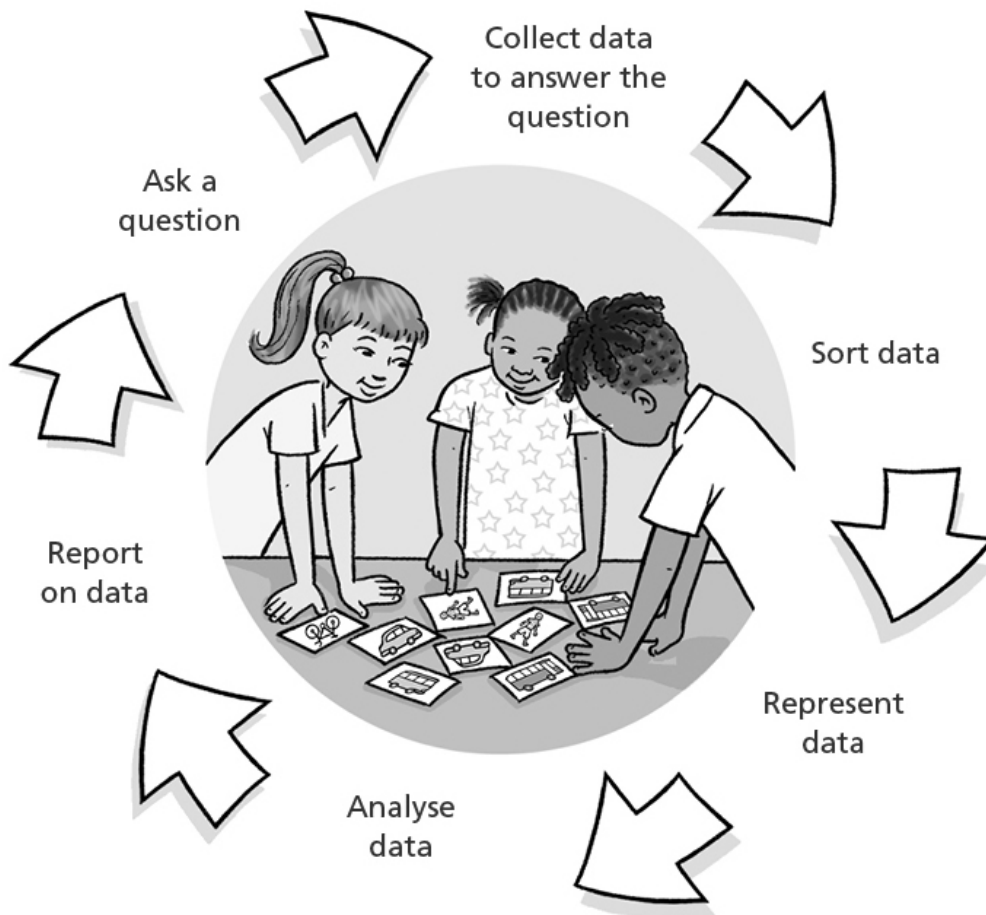
2. Dipharologano magareng ga diteng tsa Lenaneo la Dipalo le diteng tsa PPKT?

Dintlha tsa mofatlhosi

- ◆ Tlhalosetsa batsayakarolo gore Karoloteng ya Go Ranola Tshedimosetso ya Mophato wa R e tobile maitlhommo le tsamao ya go ranola tshedimosetso. E akaretsa tharabololo ya dipalo kgotsa go araba potso ka go kokoanya, go tthaola, go tlhagisa le go ranola dinewa.
- ◆ Go kokoanya le go tthaola (go arologanya) dinewa ke karolo nngwe fela ya tsamao ya go ranola tshedimosetso. Fa barutwana ba sa tsepama mo go toteng go araba potso, tirwana e tlaa bo e le ka ga go tthaola fela.
- ◆ Kaela batsayakarolo go latela tsamao ya go ranola tshedimosetso le go naya maina a dikgato tse di farologaneng mo tsamaong:
 1. Botsa potso.
 2. Kokoanya dinewa (buisanang ka ga tsela e e gaisang ya go dira seno).
 3. Tthaola dinewa tseo.
 4. Go tlhagisa dinewa tseo.
 5. Sekaseka dinewa.
 6. Bega ka ga dinewa (araba potso).
- ◆ Letla batsayakarolo go dira ka ditlhopho go dira **Tirwana 16**.
- ◆ Kopa setlhopho se le sengwe go tlhagisa tirwana ya bona.

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.



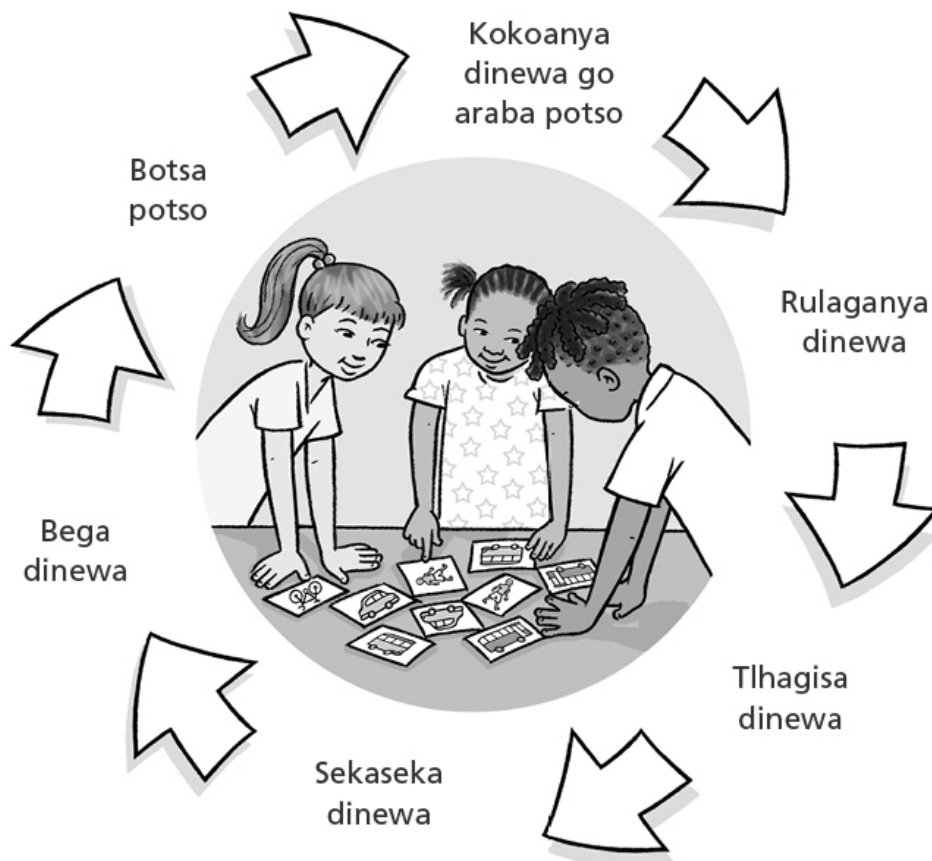
In Grade R learners should have many opportunities to sort objects according to one or more attributes, such as colour, size or shape. Sorting is part of Data Handling, but it is not the only focus. It is important to always bring the learners back to the question that has been posed and the reason why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

Go Ranola Tshedimosetso

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



Mo Mophatong wa R, barutwana ba tshwanetse go nna le ditšhono go tlaola dilo go ya ka ponagalo e le nngwe kgotsa di le dintsi, jaaka mmala, bogolo kgotsa popego. Go tlaola ke karolo ya Go Ranola Tshedimosetso, fela ga se gona fela go lebeletsweng. 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 tlaola 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?

- ◆ 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?'

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?

- ◆ Re tshwanetse go tlaola dinewa jang?
- ◆ Re tshwanetse go tlhagisa 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 tlhagisa dinewa

Barutwana ba Mophato R ba tlhotlhomisa ditsela tse di farologaneng tsa go bontsha kgotsa go supa tshedimosetso e ba e kokoantseng. **Kerafotshwantsho** ke tsela ya go tlhagisa 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 tlhagisa 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 tlhagitswe sentle le go ranolwa bonolo go araba potso: 'Bontsi jwa barutwana bo tla jang mo sekolong?'

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. Dithogo tsa Beke 7 ke dife?

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

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

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.

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 tlaola diphologolo le go tthagisa dinewa mo keriting.

Closing activities

1 hour

Facilitator's notes

- ◆ **Lessons learnt:** Ask participants to think about what they have learnt during the workshop and to complete **Activity 18** individually.
- ◆ **Take back to school task:** Read through this task. Ask if there is anything that is not clear and that requires more explanation.
- ◆ **Evaluation:** Hand out copies of the Workshop Evaluation Form and have participants complete the form.
- ◆ **Next workshop:** Give dates for the next workshop and close the workshop.



Activity 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.

Dintlha tsa mofatlhosi

- ◆ **Se o se ithutileng:** Kopa batsayakarolo go akanya ka ga se ba se ithutileng mo thutanong le go dira Tirwana 18 ya motho ka nosi.
- ◆ **Tirwana e o e busetsang kwa sekolong:** Buisa tirwana eno. Botsa gore a go na le sengwe se se sa tlhakang mme se tlhoka go tlhalosiwa gape.
- ◆ **Tlhatlhobo:** Ntsha dikhophi tsa Foromo ya Tlhatlhobo ya Thutano mme o kope batsayakarolo go e tlatsa.
- ◆ **Thutano e e latelang:** Neela matlha a thutano e e latelang mme o khutlise thutano.



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. Tswelela 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. Tlela morutwana a le mongwe rekoto ya tlhatlhobo e e weditsweng kwa thutanong e e latelang.

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.

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.

Tlathobo

Tlatsa Foromo ya Tlathobo.

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

Term 2: Activity Plan

Week 4				
CONTENT AREA: SPACE AND SHAPE (GEOMETRY)				
TOPIC: Position, orientation and views; describes, sorts and compares 3-D objects				
INTRODUCE NEW KNOWLEDGE: Sort 3-D objects according to similarities and differences, one more, one less				
PRACTISE: 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	
Day 1	Reinforce all shapes/shape hunt.	Practise 1-4.	Activity 1	A circle/square/triangle can also be a ... (create a picture).
Day 2	Feely bag – feel different shapes and describe them.	Describing an object from different positions.	Activity 2	Make shapes using cookie cutters and playdough.
Day 3	Find shapes in class using position words.	Practising shapes and positions.	Activity 3	Block construction – use blocks/Unifix blocks.
Day 4	Shape detectives. One more, one less.		Activity 4	Puzzles (minimum of 12 pieces).
Day 5	Direction and position. Obstacle course.			
Week 5				
CONTENT AREA: NUMBERS, OPERATIONS AND RELATIONSHIPS				
TOPIC: Recognise number symbols and number words; describes, orders and compares numbers				
INTRODUCE NEW KNOWLEDGE: Introduce number 5				
PRACTISE: 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	
Day 1	Introduce 5 (5 monkeys in the fifth house).	Match number symbols, number words and dot cards (4 and 5).	Activity 1	Playdough mat 5.
Day 2	Reinforce 4 and 5 (number symbols and number words).	Counting 1-7.	Activity 2	Ladybird numbers (roll correct number of paper balls).
Day 3	Counting forward and backwards. Number line.	Estimate and count. Structure beads.	Activity 3	Number matching – pegs.
Day 4	Reinforce 4 and 5.	Different configurations of the same number.	Activity 4	Number puzzles to 5 (using number words).
Day 5	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				
KAROLOTENG: BOALO LE POPEGO (JEOMETERI)				
SETLHOGO: Boemo, tlwaetso le dipono; tlhalosa, rulaganya le go bapisa dilo tsa 3-D				
TLHAGISA KITSO E NTŠHWA: Rulaganya dilo tsa 3-D go ya ka ditshwano le dipharologano, feta ka nngwe, tlase ka nngwe				
IKATISE: 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	
Letsatsi 1	Go gatelela dipopego tsothle/go tsoma dipopego.	Ikatisetse 1-4. Go tlhalosa selo go tswa mo boemong jo bo farologaneng. Go ikatisetsa dipopego le maemo.	Tirwana 1	Sediko/khutlonne/khutlotharo gape e ka nna ... (tlhama setshwantsho).
Letsatsi 2	Kgetsanakgomô -kgoma dipopego tse di farologaneng mme o di tlhalose.		Tirwana 2	Dira dipopego ka go dirisa disegakuku le tege ya go tshameka.
Letsatsi 3	Batla dipopego mo phaposiborutelong ka go dirisa mafoko a boemo.		Tirwana 3	Kago ya diboloko – dirisa diboloko/Dibolokokgogedi. Diphazele (dikarolwana di le 12 bonnye).
Letsatsi 4	Matseka a dipopego. Feta ka nngwe, tlase ka nngwe.		Tirwana 4	
Letsatsi 5	Kaelo le boemo. Sebakakgoreletso			
Beke 5				
KAROLOTENG: DINOMORE, DITIRO LE DIKAMANO				
SETLHOGO: Lemoga matshwaopalo le mafokopalo; tlhalosa, rulaganya le go bapisa dinomore				
TLHAGISA KITSO E NTŠHWA: Tlhagisa nomore 5				
IKATISE: 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	
Letsatsi 1	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.	Tirwana 1	Mmetshe wa tege ya go tshameka 5.
Letsatsi 2	Go gatelela 4 le 5 (matshwaopalo le mafokopalo).		Tirwana 2	Dinomore tsa podile-kgwana (kgokolosa palo e e nepagetseng ya dibolo tsa pampiri).
Letsatsi 3	Go balela kwa pele le kwa morago. Molapalo.		Tirwana 3	Go nyalanya dinomore – diphekese. Diphazele tsa dinomore go fitlha ka 5 (ka go dirisa mafokopalo).
Letsatsi 4	Go gatelela 4 le 5.		Tirwana 4	
Letsatsi 5	Go gatelela dinomore 1-5 (go lemoga dikaratarontho, matshwaopalo, mafokopalo).			

Week 6				
CONTENT AREA: PATTERNS, FUNCTIONS AND ALGEBRA				
TOPIC: Copies and extends simple repeating patterns; creates own patterns; describes the repeat in patterns				
INTRODUCE NEW KNOWLEDGE: Copy and extend simple patterns, create and explain own pattern, oral counting 1–20, count backwards from 7				
PRACTISE: 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 Activity 2 Activity 3 Activity 4	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				
CONTENT AREA: DATA HANDLING				
TOPIC: Collects and sort objects; represents sorted collections of objects; discusses and reports on sorted collections of objects				
INTRODUCE NEW KNOWLEDGE: Draw a picture of collected objects, answer questions on own picture				
PRACTISE: 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 Activity 2 Activity 3 Activity 4	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 latlhlweng. 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?

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 Tlhatlhubo ya Thutano 5

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

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

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

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

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