Lenaneo le Ntlafaditsweng la Mmetse la Kereiti ya R

Grade R Mathematics Improvement Programme

Wekshopo ya 6 ● Workshop 6
Tataiso ya Motsamaisi ● Facilitator's Guide

Projeke ya Mmetse wa Kereiti ya R le Ntlafatso ya Puo ke bohato ba pele ba **Lefapha la Thuto la Gauteng (Gauteng Department of Education)** le molekane wa lona wa sehlooho, **Gauteng Education Development Trust**. Ntshetsopele le tlhahiso ya mehlodi ya thupelo le ya phaposi ya borutelo bakeng sa Projeke ya Mmetse wa Kereiti ya R le Ntlafatso ya Puo di ile tsa tswelletswa ke tshehetso ka ditjhelete ya diprojeke e fanweng ke **United States Agency for International Development** le **Zenex Foundation**.

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

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

DITEBOHO

Diteboho tse kgethehileng ho:

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

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Overview

Purpose

This is the sixth 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 with the implementation of the Maths Programme in their classrooms, especially the Content Areas covered in Term 2 Weeks 8–10. Participants will reflect on their ongoing assessment of learners' progress and will document developmental concerns related to the learners that may require special interventions and support. Participants will also reflect on teaching strategies that strengthen learners' problem-solving skills.

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 2 Weeks 4–7
♦   To explore strategies to support teaching maths in Grade R
♦   To reflect on the Maths Programme's principles in the weekly plan
♦   To engage with the Maths Programme content of Term 2 Weeks 8–10 (Space and Shape (Geometry); Measurement; Numbers, Operations and Relationships)
♦   To apply knowledge of informal, continuous assessment to learning and teaching

Workshop content

♦   Opening and reflection   (1 hour)
♦   Session 1: Space and Shape (Geometry)   (1 hour)
TEA
♦   Session 2: Measurement   (1 hour)
♦   Session 3: Numbers, Operations and Relationships   (1 hour)
LUNCH
♦   Session 4: Numbers, Operations and Relationships   (45 minutes)
♦   Session 5: Term 2 Assessment   (1 hour)
♦   Closing activities   (15 minutes)

Tjhebokakaretso

Sepheo

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

Sepheo sa wekshopo ena ke ho thusa matitjhere ho kenya tshebetsong Lenaneo la Mmetse ka diphaposing tsa bona tsa borutelo, haholoholo Dikarolo tsa Dikahare tse entsweng ho Kotara ya 2 Dibeke tsa 8–10. Bankakarolo ba tla ikgopotsa tekanyetso ya bona e tswelang pele ya kgatelopele ya baithuti mme ba tla ngola fatshe dingongoreho tsa ntshetsopele tse mabapi le baithuti tse ka hlokang bokenadipakeng le tshehetso tse ikgethileng. Bankakarolo hape ba tla ikgopotsa mawa a ho ruta a matlafatsang bokgoni ba baithuti ba ho rarolla bothata.

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

Diphetho tsa ho ithuta

♦ Ho shebisisa ho kenya tshebetsong ha Kotara ya 2 Dibeke tsa 4–7
♦ Ho sebedisa dintlhatheo tsa Lenaneo la Mmetse moralong wa beke le beke
♦ Ho shebisisa dintlhatheo tsa Lenaneo la Mmetse tse ho moralo wa beke le beke
♦ Ho shebana le dikahare tsa Lenaneo la Mmetse tsa Kotara ya 2 Dikebe tsa 8–10 (Sebaka le Sebopeho (Jeometri); Mometho; Dinomoro, Matshwao le Dikamano)
♦ Ho sebedisa tsebo ya tekanyetso e sa hlophiswang, e tswelang pele bakeng sa ho ithuta le ho ruta

Dikahare tsa wekshopo

♦ Pulo le boikgopotso	(Hora e 1)
♦ Karolo ya 1: Sebaka le Sebopeho (Jeometri)	(Hora e 1)
TEYE	
♦ Karolo ya 2: Mometho	(Hora e 1)
♦ Karolo ya 3: Dinomoro, Matshwao le Dikamano	(Hora e 1)
DIJO TSA MOTSHEARE	
♦ Karolo ya 4: Dinomoro, Matshwao le Dikamano	(Metsotso e 45)
♦ Karolo ya 5: Tekanyetso ya Kotara ya 2	(Hora e 1)
♦ Diketsahalo tsa ho kwala	(Metsotso e 15)

Preparation

- PPT welcome and outcomes
- Read:
  Concept Guide, pages 114–137
  Activity Guide: Term 2, pages 18–21 and pages 138–189
  Appendix A: Term 2 Weekly Content Summary (Weeks 8–10)
- Remind participants to bring their *Concept Guide*, *Activity Guide: Term 2*, an example of their assessment of a learner and their evaluation notes from the *Take back to school* task from Workshop 5.
- Place a *Resource Kit* on each group's table.
- Cut out a set of shapes from Appendix B for each group. Place the shapes in a separate envelope for each group.

Materials

- Flipchart paper, kokis
- A *Resource Kit* for each group
- A *Poster Book* for each group

Tokisetso

- PPT kamohelo le diphetho
- Bala:

  Tataiso ya Mareo, maqephe a 114–137

  Tataiso ya Diketsahalo: Kotara ya 2, maqephe a 18–21 le maqephe a 138–189

  Sehlomathiso A: Kotara ya 2 Kakaretso ya Dikahare tsa Beke le beke (Dibeke tsa 8–10)
- Hopotsa bankakarolo ho tla le *Tataiso ya Mareo, Tataiso ya Diketsahalo: Kotara ya 2*, mohlala wa tekanyetso ya bona ya moithuti le dinoutso tsa bona tsa tlhahlobo ho tswa ho mosebetsi wa *Kgutlela le yona sekolong* wa Wekshopo ya 5.
- Bea *Khiti ya Disebediswa* hodima tafole ya sehlotshwana ka seng.
- Seha sete ya dibopeho tse tswang ho Sehlomathiso B bakeng sa sehlotshwana ka seng. Kenya dibopeho tseo ka hara enfolopo e fapaneng bakeng sa sehlotshwana ka seng.

Disebediswa

- Pampiri ya fliptjhate, dikoki
- *Khiti ya Disebediswa* bakeng sa sehlopha ka seng
- *Buka ya Diphoustara* bakeng sa sehlopha ka seng
- *Khiti ya Disebediswa*: diboloko tsa makgetha

Opening and reflection

1 hour

Here is the *Take back to school task* from Workshop 5.

> ❗ **Take back to school task (Workshop 5)**
>
> 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 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.

Activity 1

1. In your groups, discuss your progress in implementing Term 2 Weeks 4–7.
   - ♦ What worked well (strengths)?
   - ♦ What did not work well (challenges)?
   - ♦ What could you do to improve teaching and learning in your classroom?

Record the main points of your discussion on flipchart paper to share with the other groups later.

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Pulo le boikgopotso

Dinoutso tsa motsamaisi

♦ PPT: Bula karolo ena ka ho bala lenanetsamaiso le diphetho tsa ho ithuta bakeng sa wekshopo ena.

♦ Kopa bankakarolo ho ikgopotsa ho kenya tshebetsong ha bona ha Kotara ya 2 Dibeke tsa 4–7 tsa Lenaneo la Mmetse le ditemoho le ditekanyetso tsa bona ka baithuti.

♦ Bankakarolo ba buisana ka dipotso tse ho **Ketsahalo ya 1** dihlotshwaneng tsa bona. Qeta nako e itseng o ena le sehlotshwana ka seng nakong ya dipuisano, o kena dipuisanong moo ho lokelang.

Mosebetsi wa kgutlela le yona sekolong ke ona ho tswa ho Wekshopo ya 5.

Mosebetsi wa kgutlela le yona sekolong (Wekshopo ya 5)

1. Tswela pele ho sebedisa Rekoto ya Ditekanyetso tse Tswellang tse ho *Tataiso ya Diketsahalo: Kotara ya 2* ho lekanyetsa baithuti. Sebedisa dinoutso tsa hao tsa ditemoho tse tswellang ho aha bopaki ba seo baithuti ba se utlwisisang le ho ka se etsa.

2. Hlwaya dingongoreho dife kapa dife tseo o nang le tsona mabapi le kutlwisiso e hlahellang ya baithuti ka bomong ya mareo a mmetse.

3. Tloo le dikhopi tsa diruburiki tseo o di sebedisitseng bakeng sa tekanyetso ya mmetse wekshopong e latelang.

4. Tloo le rekoto ya tekanyetso e felletseng ya moithuti a le mong wekshopong e latelang.

5. Sebedisa *Tataiso ya Diketsahalo: Kotara ya 2* bakeng sa ho rera le ho kenya tshebetsong Dibeke tsa 4–7 tsa Lenaneo la Mmetse, ho kenyeletsa ho thea sebaka sa mmetse o tsepamisitse maikutlo ho lereo le itseng bakeng sa beke ka nngwe.

6. Etsa dinoutso mabapi le tse sebeditseng hantle, tse sa sebetsang hantle le tseo o nahanang hore o ka di etsa ka tsela e fapaneng ho ntlafatsa ho ruta le ho ithuta.

Ketsahalo ya 1

1. Dihlotshwaneng tsa lona, buisanang ka kgatelopele ya lona ya ho kenya tshebetsong Kotara ya 2 Dibeke tsa 4–7.

   ♦ Ke dife tse sebeditseng hantle (matla)?

   ♦ Ke dife tse sa sebetsang hantle (diphephetso)?

   ♦ Ke eng seo o ka beng o se entse ho ntlafatsa ho ruta le ho ithuta ka phaposing ya hao ya borutelo?

Rekotang dintlha tsa sehlooho tsa puisano ya lona pampiring ya fliptjhate bakeng sa ho abelana le dihlotshwana tse ding hamorao.

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2. Discuss how successful you were in:
   - ♦ recording notes about individual learners after each teacher-guided activity in Weeks 4–7.
   - ♦ completing the Term 2: Record of Continuous Assessments on pages 190–193 of *Activity Guide: Term 2* for each learner.

Record the main points of your discussion on your flipchart paper.

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3. Discuss one learner's areas of success and/or difficulty and how you recorded these. Record the main points of your discussion on your flipchart paper.

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Facilitator's notes

- ♦ Ask each group to share the main points from their discussion. Remind participants to only add points that other groups have not already mentioned.
- ♦ This discussion is intended to reflect on the process of capturing learners' progress over a period of weeks. Participants were asked to observe learners as they perform tasks in whole class and small group activities and to capture this information. The discussion is intended to help teachers recognise how to use the Record of Continuous Assessments to look for patterns of competence in the learners and to share the assessment tools and processes they use in their schools.

In the *Take back to school* task in Workshop 5 you were asked to bring copies of the learner assessment rubrics you use as part of the Maths Programme to this workshop. In Activity 2, your group will discuss these rubrics and how assessment information is captured and shared. In Session 5, we will discuss rubrics in more detail.

Activity 2

1. In your groups, share examples of maths rubrics you have used as part of your assessment process.
2. Discuss how you capture the learners' progress on the SA-SAMS system and how this information is shared with parents.

Record the main points of your discussion on flipchart paper to share with the other groups later.

2. Buisanang kamoo le atlehileng ka teng ho:
   ♦ rekota dinoutso mabapi le baithuti ka bonngwe kamora ketsahalo ka nngwe e tataiswang ke titjhere ho Dibeke tsa 4–7.
   ♦ qetella Kotara ya 2: Rekoto ya Tekanyetso e Tswellang ho maqephe a 190–193 a *Tataiso ya Diketsahalo: Kotara ya 2* bakeng sa moithuti ka mong.

Rekotang dintlha tsa sehlooho tsa puisano ya lona pampiring ya flipitjhate ya lona.

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3. Buisanang ka dibaka tsa moithuti ka mong tsa katleho le/kapa tsa mathata le kamoo le di rekotileng ka teng. Rekotang dintlha tsa sehlooho tsa puisano ya lona pampiring ya fliptjhate ya lona.

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Dinoutso tsa motsamaisi

♦ Kopa sehlotshwana ka seng ho abelana ka dintlha tsa sehlooho tse tswang puisanong ya bona. Hopotsa bankakarolo ho kenya feela dintlha tseo dihlotshwana tse ding di esoka di bua ka tsona.

♦ Puisano ena e etseditswe ho ikgopotsa mokgwatsamaiso wa ho rekota kgatelopele ya baithuti nakong ya dibeke. Bankakarolo ba ne ba kopilwe ho shebella baithuti ha ba ntse ba etsa mesebetsi ho diketsahalo tsa tlelase yohle le tsa dihlotshwana mme ba rekote tlhahisoleseding ena. Puisano e reretswe ho thusa matitjhere ho lemoha kamoo ba ka sebedisang Rekoto ya Tekanyetso e Tswellang bakeng sa ho batlana le mekgwa ya boitsebelo ho baithuti le ho abelana ka disebediswa tsa tekanyetso le mekgwatshebetso eo ba e sebedisang dikolong tsa bona.

Mosebetsing wa *Kgutlela le yona sekolong* o ho Wekshopo ya 5 le ile la kotjwa ho tla le dikophi tsa diruburiki tsa tekanyetso ya moithuti tseo le di sebedisang jwaloka karolo ya Lenaneo la Mmetse wekshopong ena. Ho Ketsahalo ya 2, sehlotshwana sa lona se tla buisana ka diruburiki tsena le kamoo tlhahisoleseding ya tekanyetso e ngolwang le ho abelanwa ka teng. Ho karolo ya 5, re tla buisana ka diruburiki ka botebo.

 Ketsahalo ya 2

1. Dihlotshwaneng tsa lona, abelanang ka mehlala ya diruburiki tsa mmetse tseo le di sebedisitseng e le karolo ya mokgwatshebetso wa tekanyetso ya lona.
2. Buisanang kamoo le rekotang kgatelopele ya baithuti ho sistimi ya SA-SAMS le kamoo tlhahisoleseding ena e abelanwang le batswadi ka teng.

Rekotang dintlha tsa sehlooho tsa puisano ya lona pampiring ya fliptjhate bakeng sa ho abelana le dihlotshwana tse ding hamorao.

📹 Video 1

Watch the video of a teacher observing a group of learners completing a maths activity. Listen to her talking about how she observes and records her learners' progress and how she deals with their different levels of competence.

Discuss how you deal with learners who are not achieving success in the structured weekly plans, as well as those learners who exceed expectations.

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The **level principle:** Not all learners progress at the same speed. Some learners need more time to consolidate a skill or concept while others grasp ideas more quickly. The challenge for teachers is to accommodate learners at different levels and to adapt the weekly plan to provide support or extension activities where necessary.

Facilitator's notes

♦ Discuss the need for a differentiated approach to teaching and why this is beneficial for all the learners in the class. Link the discussion to the **level principle**.

♦ Throughout this workshop make links to the **level principle** and differentiation strategies for dealing with learners who are not achieving success in the structured weekly plans, as well as those learners who exceed expectations.

📹 **Video ya 1**

Shebellang video ya titjhere ya shebelletseng sehlopha sa baithuti se phethela ketsahalo ya mmetse. Mo mameleng ha a bua kamoo a lemohang le ho rekota kgatelopele ya baithuti ba hae ka teng le kamoo a sebetsanang le maemo a bona a fapaneng a boiphihlelo.

Buisanang kamoo le sebetsanang le baithuti ba sa fihlelleng katleho meralong ya beke le beke e hlophisitsweng, esitana le baithuti ba fetang ditebello tsa ho ithuta.

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Ntlhatheo ya mekgahlelo: Ha se baithuti bohle ba hatelang pele ka lebelo le tshwanang. Baithuti ba bang ba hloka nako e ngata bakeng sa ho kgobokanya bokgoni kapa kgopolo ha ba bang ba utlwisisa ditaba kapele ho feta. Phephetso bakeng sa matitjhere ke ho kenyeletsa baithuti mekgahlelong e fapaneng le ho lokisa moralo wa beke le beke hore o fane ka tshehetso kapa katoloso ya diketsahalo moo ho hlokehang.

Dinoutso tsa motsamaisi

- ♦ Buisanang ka tlhokeho ya mekgwa e fapaneng ya ho ruta le hore ke hobaneng sena se le molemo bakeng sa baithuti bohle ka tlelaseng. Hokelang puisano ena ho **ntlhatheo ya mekgahlelo**.
- ♦ Nakong yohle ya wekshopo ena, etsa dikamano ho **ntlhatheo ya mekgahlelo** le mawa a ditsela tse fapaneng bakeng sa ho sebetsana le baithuti ba sa fihlelleng katleho mererong e hlophisitsweng ya beke le beke, esitana le baithuti ba fetang ditebello tsa ho ithuta.

Session 1: Space and Shape (Geometry) 1 hour

This workshop focuses on teaching the content of Term 2 Weeks 8–10. The focus of Term 2 Week 8 is Space and Shape (Geometry).

Terms 1–4 Content overview: Space and Shape (Geometry)

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

Facilitator's notes
◆ The aim of **Activity 3** is to highlight the content of CAPS and the extended content provided in the Maths Programme.
◆ Refer participants to pages 126–131 of the *Concept Guide*: follow directions (3.1) and crossing the midline (3.4).
◆ Draw participants' attention to the Week 8 content in the New knowledge box on page 138 of *Activity Guide: Term 2*.
◆ Remind participants of Space and Shape (Geometry) content covered in previous weeks.

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

Wekshopo ena e tsepame ho ho ruta dikahare tsa Kotara ya 2 Dibeke tsa 8–10. Tsepamiso e ho Kotara ya 2 Beke ya 8 ke Sebaka le Sebopeho (Jeometri).

Dikotara tsa 1–4 Tjhebokakaretso ya Dikahare: Sebaka le Sebopeho (Jeometri)

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

Dinoutso tsa motsamaisi
♦ Sepheo sa **Ketsahalo ya 3** ke ho hlakisa dikahare tsa SLTK le dikahare tse atolositsweng tse fanweng ho Lenaneo la Mmetse.
♦ Ere bankakarolo ba shebe ho maqephe a 126–131 a *Tataiso ya Mareo*: latela ditshupiso (3.1) le ho tshela molahare (3.4).
♦ Lemosa bankakarolo ka dikahare tsa Beke ya 8 ho lebokoso la Tsebo e Ntjha leqepheng la 139 la *Tataiso ya Diketsahalo: Kotara ya 2*.
♦ Hopotsa bankakarolo ka dikahare tsa Sebaka le Sebopeho (Jeometri) tse rutilweng dibekeng tse fetileng.

Properties of shapes

Learners need many opportunities to compare and sort shapes according to their properties and to describe the similarities and differences of shapes.

Facilitator's notes
♦ Hand out one set of shapes from Appendix B to each group.
♦ Ask participants to sort the shapes. Don't prompt them. Once they have sorted them, ask: *How did you sort the shapes?* Ask participants to explain why they sorted the shapes in this way.
♦ Now ask participants to sort the shapes in another way. Ask participants to explain why they sorted the shapes in this way.
♦ Make sure that the following sorting criteria are mentioned: - shape - size - number of sides - number of corners - straight or curved lines.
♦ Encourage participants to use the correct maths vocabulary to describe the properties of shapes, e.g. *sides*, *corners*, *lines*.

Activity 4

The facilitator will give your group a set of shapes.
1. Sort the shapes.
2. Discuss why you sorted them in this way.
3. Sort the shapes in another way.
4. Discuss why you sorted them in this way.

Term 2 Content Summary: Week 8

Refer to Appendix A: Term 2 Weekly Content Summary (Weeks 8–10). Read the content overview for Week 8: Space and Shape (Geometry) on page 20 of *Activity Guide: Term 2*.

The Space and Shape (Geometry) Content Area was also the focus of Term 2 Weeks 3 and 4. In previous workshops, you have discussed the Space and Shape concepts that need to be covered.

The Weekly Content Summary for Week 8 provides an overview of planning for the week: whole class activities, teacher-guided activities and workstation activities done in independent small groups.

Makgetha a dibopeho

Baithuti ba hloka menyetla e mengata ya ho bapisa le ho hlophisa dibopeho ho ya ka makgetha a tsona le ho hlalosa ditshwano le diphapang tsa dibopeho.

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Dinoutso tsa motsamaisi

♦ Fana ka sete e le nngwe ya dibopeho ho tswa ho Sehlomathiso B ho sehlotshwana ka seng.

♦ Kopa bankakarolo ho hlophisa dibopeho. O se ke wa ba thusa. Hang ha ba se ba di hlophile, botsa: *O hlophisitse dibopeho tseo jwang?* Kopa bankakarolo ho hlalosa hore ke hobaneng ba hlophisitse dibopeho ka tsela ena.

♦ Jwale kopa bankakarolo ho hlophisa dibopeho ka tsela e nngwe. Kopa bankakarolo ho hlalosa hore ke hobaneng ha ba hlophisitse dibopeho tseo ka tsela ena.

♦ Etsa bonnete ba hore makgetha a latelang a ho hlophisa a a bolelwa:
  - sebopeho
  - boholo
  - lenane la mahlakore
  - lenane la dihuku
  - mela e otlolohileng kapa e kgopameng.

♦ Kgothaletsa bankakarolo ho sebedisa tlotlontswe e nepahetseng ya mmetse ho hlalosa makgetha a dibopeho, mohl. *mahlakore, dihuku, mela*.

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Ketsahalo ya 4

Motsamaisi o tla fa sehlotshwana sa hao sete ya dibopeho.

1. Hlophisang dibopeho.
2. Buisanang ka hore ke hobaneng le di hlophisitse ka tsela ena.
3. Hlophisang dibopeho ka tsela e nngwe.
4. Buisanang ka hore ke hobaneng ha le di hlophisitse ka tsela ena.

Kotara ya 2 Kakaretso ya Dikahare: Beke ya 8

Shebang ho Sehlomathiso A: Kotara ya 2 Kakaretso ya Dikahare tsa Beke le beke (Dibeke tsa 8–10). Balang tjhebokakaretso ya dikahare bakeng sa Beke ya 8: Sebaka le Sebopeho (Jeometri) leqepheng la 21 la *Tataiso ya Diketsahalo: Kotara ya 2*.

Karolo ya Dikahare tsa Sebaka le Sebopeho (Jeometri) e ne e boetse e le tsepamiso ya Kotara ya 2 Dibeke tsa 3 le 4. Diwekshopong tse fetileng, le buisane ka mareo a Sebaka le Sebopeho a lokelang ho rutwa.

Kakaretso ya Dikahare tsa Beke le beke bakeng sa Beke ya 8 e fana ka tjhebokakaretso ya ho rera bakeng sa beke: diketsahalo tsa tlelase yohle, diketsahalo tse tataiswang ke titjhere le diketsahalo tsa diteisheneng tsa tshebetso tse etswang ke dihlotshwana tse ikemetseng.

Facilitator's notes

- ♦ The aim of **Activity 5** is for teachers to recognise the link between:
  - the CAPS content in the Term 1–4 content overview on pages 126–131 of the *Concept Guide*
  - the content overview on page 20 of *Activity Guide: Term 2*
  - Appendix A: Term 2 Weekly Content Summary (Weeks 8–10)
  - the daily activities in Week 8 of *Activity Guide: Term 2* (pages 138–153).
- ♦ In the whole group feedback session make sure that participants are familiar with the structure of and planning for the teaching of Week 8. Help them to identify the links between the suggested activities in *Activity Guide: Term 2* and the content overview. Link this discussion back to how the content of the week fits with CAPS.

 Activity 5

1. Take a few minutes to familiarise yourself with the Week 8 content in Appendix A: Term 2 Weekly Content Summary (Weeks 8–10).
2. Match this with the content on pages 138–153 of *Activity Guide: Term 2*. Identify how the whole class, teacher-guided and workstation activities link with the Week 8 content in Appendix A.

 Ketsahalo ya 5

1.   Nka metsotso e mmalwa ho itlwaetsa dikahare tsa Beke ya 8 ho Sehlomathiso A: Kotara ya 2 Kakaretso ya Dikahare tsa Beke le beke (Dibeke tsa 8–10).

2.   Nyalanya sena le dikahare tse maqepheng a 138–153 a *Tataiso ya Diketsahalo: Kotara ya 2*. Hlwaya kamoo diketsahalo tsa tlelase yohle, tse tataiswang ke titjhere le tsa diteisheneng tsa tshebetso di amanang ka teng le dikahare tsa Beke ya 8 ho Sehlomathiso A.

Session 2: Measurement

1 hour

The focus of Term 2 Week 9 is Measurement.

Terms 1–4 Content overview: Measurement

Refer to the content overview for Measurement on pages 132–135 of the *Concept Guide*.

Facilitator's notes
♦ The aim of **Activity 6** is to highlight the content of CAPS.
♦ Remind teachers that assessment in Grade R should be based on CAPS, and that the additional Maths Programme content is for enriching the teaching and learning experience.

Activity 6

1. What Measurement concepts are covered in Term 2?

    _____
    _____
    _____

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

    _____
    _____
    _____

Directly comparing objects: length

In Term 1 of the Maths Programme the focus of the Measurement Content Area was time (day, night, days of the week, sequencing events, etc.) and the height chart. In Term 2 Week 9, the focus is on using non-standard units to measure and compare length.

Activity 7

1. **Direct comparison**

    Choose a partner to stand next to. The rest of your group members should compare your heights.

    ♦ Who is taller? _____

    ♦ Who is shorter? _____

    ♦ Find a third person who is taller than both of these people.

Karolo ya 2: Mometho

Tsepamiso ya Kotara ya 2 Beke ya 9 ke Mometho.

Dikotara tsa 1–4 Tjhebokakaretso ya dikahare: Mometho

Sheba ho tjhebokakaretso ya dikahare bakeng sa Mometho maqepheng a 132–135 a *Tataiso ya Mareo*.

Dinoutso tsa motsamaisi
♦   Sepheo sa **Ketsahalo ya 6** ke ho hlakisa dikahare tsa SLTK.
♦   Hopotsa matitjhere hore tekanyetso ya Kereiti ya R e lokela ho thehwa hodima SLTK, le hore dikahare tse ekeditsweng tsa Lenaneo la Mmetse ke tsa ho nontsha ketso ya ho ruta le ya ho ithuta.

Ketsahalo ya 6

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

   _____

   _____

   _____

2. Ke diphapang dife tse teng pakeng tsa dikahare tsa Lenaneo la Mmetse le dikahare tsa SLTK?

   _____

   _____

   _____

Ho bapisa dintho ka kotloloho: bolelele

Ho Kotara ya 1 ya Lenaneo la Mmetse tsepamo e ho Karolo ya Dikahare tsa Mometho e ne e le nako (motsheare, bosiu, matsatsi a beke, tatelano ya diketsahalo, jj.) le tjhate ya bophahamo. Ho Kotara ya 2 Beke ya 9, tsepamo e ho tshebediso ya diyuniti tse sa hlophiswang ho metha le ho bapisa bolelele.

Ketsahalo ya 7

1. **Papiso ka kotloloho**

   Kgetha molekane eo o ka emang pela hae. Ditho tse ding kaofela tsa sehlopha sa hao di lokela ho bapisa bophahamo ba lona.
   - ♦ Ke mang ya motelele ho feta? _____
   - ♦ Ke mang ya mokgutshwane ho feta? _____
   - ♦ Batla motho e mong wa boraro ya motelele ho feta batho bana ba le babedi.

2. **Using non-standard units of measurement**
   Choose three objects (e.g. a key, a cellphone, a purse).
   - ♦ Use one of these items at a time to measure this *Participant's Workbook*.
   - ♦ Report your findings to the group.

   _____
   _____
   _____

Facilitator's notes

- ♦ Point out that the non-standard units used to measure the *Participant's Workbook* are not the same size. When participants compare their measurements (how many units, e.g. the key), they will recognise that the choice of the unit determines how many of a unit there are in the total number of units – so, the different objects used for measuring will result in a different number of units in the answer (total number of units), e.g. the *Participant's Workbook* measures 17 keys versus 4 cellphones.
- ♦ Make participants aware that the size of a non-standard unit can vary between people, e.g. one person may have a smaller cellphone than another. This will also result in a different total number of units.
- ♦ Observe participants as they measure and make sure that the non-standard unit is being used accurately (end-to-end).

Term 2 Content Summary: Week 9

Refer to Appendix A: Term 2 Weekly Content Summary (Weeks 8–10). Read the content overview for Week 9: Measurement on page 20 of *Activity Guide: Term 2*.

Read the whole class activities for Week 9 on pages 154–165 of *Activity Guide: Term 2*.

2. **Ho sebedisa diyuniti tse sa hlophiswang tsa mometho**
   Kgetha dintho tse tharo (mohl. senotlolo, selefouno, sepatjhe).
   ♦ Sebedisa e nngwe ya dintho tsena ka nako ho metha *Buka ya Mosebetsi ya Monkakarolo*.
   ♦ Tlaleha diphumano tsa hao sehlopheng.

   _____
   _____
   _____

Dinoutso tsa motsamaisi

♦ Supa hore diyuniti tse sa hlophiswang tse sebediswang ho metha *Buka ya Mosebetsi ya Monkakarolo* ha di lekane ka boholo. Ha bankakarolo ba bapisa memetho ya bona (ke diyuniti tse kae, mohl. senotlolo), ba tla elellwa hore kgetho ya yuniti e bontsha hore ke bokae ba yuniti bo teng lenaneng lohle la diyuniti – kahoo, dintho tse fapaneng tse sebediswang bakeng sa ho metha di tla fana ka lenane le fapaneng la diyuniti karabong (palo yohle ya diyuniti), mohl. *Buka ya Mosebetsi ya Monkakarolo* e metha dinotlolo tse 17 papisong le diselefouno tse 4.

♦ Elelliswa bankakarolo hore boholo ba yuniti e sa hlophiswang bo ka fapana pakeng tsa batho, mohl. motho a le mong a ka ba le selefouno e nyane ho feta e mong. Sena hape se tla baka palo yohle e fapaneng ya diyuniti.

♦ Shebella bankakarolo ha ba ntse ba metha mme o etse bonnete ba hore diyuniti tse sa hlophiswang di sebediswa ka nepahalo (ho tloha ntlheng e nngwe ho ya ho e nngwe).

Kotara ya 2 Kakaretso ya Dikahare: Beke ya 9

Sheba ho Sehlomathiso A: Kotara ya 2 Kakaretso ya Dikahare tsa Beke le beke (Dibeke tsa 8–10). Bala tjhebokakaretso ya dikahare bakeng sa Beke ya 9: Mometho leqepheng la 21 la *Tataiso ya Diketsahalo: Kotara ya 2*.

Bala diketsahalo tsa tlelase yohle bakeng sa Beke ya 9 maqepheng ana, 154–165 a *Tataiso ya Diketsahalo: Kotara ya 2*.

Activity 9

In your groups, discuss how length is taught during the whole class activities in Week 9.

1. What could you do if a learner is not yet able to compare and order objects according to length – long/longer and short/shorter by the end of Week 9?

_____

_____

_____

Focus on language, on practical activities. Provide more repetition, more discussion, more input from the teacher. Pair learner with a peer.

2. What could you do if some learners complete a workstation activity successfully quicker than planned?

_____

_____

_____

Prepare appropriate free choice activities. Give them a 'big' task to do e.g. use your shoe to measure one side of the classroom.

Ketsahalo ya 9

Sehlotshwaneng sa lona, buisanang kamoo bolelele bo rutwang ka teng nakong ya diketsahalo tsa tlelase yohle ho Beke ya 9.

1. O ne o ka etsa eng haeba moithuti a eso kgone ho bapisa le ho bea dintho ka tatelano ho ya ka bolelele – telele/telele ho feta le kgutshwane/kgutshwane ho feta pele Beke ya 9 e fela?

_____

_____

_____

Tsepama ho puo, ho diketsahalo tse etswang. Fana ka phetapheto e ngata, puisano e ngata, phehiso e ngata e tswang ho titjhere. Bea moithuti le mphato.

2. O ne o ka etsa eng haeba baithuti ba bang ba qeta ketsahalo ya diteisheneng tsa tshebetso ka katleho kapele ho feta kamoo ho neng ho rerilwe?

_____

_____

_____

Lokisa diketsahalo tsa boikgethelo tse loketseng. Ba fe mosebetsi o 'moholo' hore ba o etse mohl. sebedisa seeta sa hao ho metha lehlakore le leng la phaposi ya borutelo.

Session 3: Numbers, Operations and Relationships

1 hour

The focus of Term 2 Week 10 is Numbers, Operations and Relationships.

Terms 1–4 Content overview: Numbers, Operations and Relationships

The Numbers, Operations and Relationships Content Area was also the focus in Weeks 1, 2 and 5 of Term 2, and you discussed the number concepts that need to be covered in previous workshops. Look at the content overview for Numbers, Operations and Relationships on pages 114–123 of the *Concept Guide*.

Activity 10

What number concepts still need to be covered in Term 2?

_____

_____

Problem solving

Teachers need to provide learners with many opportunities to solve problems so that they can apply their maths knowledge and skills in new contexts. All games and activities involve problem solving. Word problems in maths introduce a specific type of problem solving that involves solving addition, subtraction, multiplication and division problems. In Grade R learners solve addition and subtraction problems by counting and using concrete apparatus to help them find a solution. They use grouping and one-to-one sharing to solve multiplication and division problems.

The biggest challenge in presenting word problems to learners, is to ensure that there is appropriate questioning and use of language. When teachers present a word problem, they need to listen carefully to learners' responses and guide them to solve the problem using a strategy that is suitable for their level of understanding.

The posters in the *Poster Book* have been designed to provide learners with a set of pictures that relate to their lives and provide contexts for solving real-life problems.

In Week 10 Day 4 (page 180 of *Activity Guide: Term 2*), Poster 1 is used to encourage learners to solve problems that involve numbers 1–5.

Karolo ya 3: Dinomoro, Matshwao le Dikamano

Tsepamiso ya Kotara ya 2 Beke ya 10 ke Dinomoro, Matshwao le Dikamano.

Dikotara tsa 1–4 Tjhebokakaretso ya Dikahare: Dinomoro, Matshwao le Dikamano

Karolo ya Dikahare ya Dinomoro, Matshwao le Dikamano le yona e bile tsepamiso ya Dibeke tsa 1, 2 le 5 tsa Kotara ya 2, mme le buisane ka mareo a dinomoro a lokelang ho rutwa diwekshopong tse fetileng. Sheba tjhebokakaretso ya dikahare bakeng sa Dinomoro, Matshwao le Dikamano maqepheng a 114–123 a *Tataiso ya Mareo*.

Ketsahalo ya 10

Ke mareo afe a dinomoro a ntseng a hloka ho rutwa ho Kotara ya 2?

_____

_____

Ho rarolla mathata

Matitjhere a hloka ho fa baithuti menyetla e mengata ya ho rarolla mathata ele hore ba tle ba kgone ho sebedisa tsebo le bokgoni ba bona ba mmetse maemong a matjha. Dipapadi tsohle le diketsahalo di kenyeletsa ho rarolla bothata. Dipalo tsa mantswe ho mmetse di tsebisa mofuta o itseng wa ho rarolla bothata o kenyeletsang ho rarolla mathata a ho kopanya, ho tlosa, ho atisa le ho arola. Kereiting ya R baithuti ba rarolla mathata a ho kopanya le ho tlosa ka ho bala le ho sebedisa disebediswa tse tshwarehang ho ba thusa ho fumana tharollo. Ba sebedisa ho bea ka dihlopha le ho abelana ka bonngwe ho rarolla mathata a ho atisa le ho arola.

Phephetso e kgolo ka ho fetisisa ya ho hlahisa dipalo tsa mantswe ho baithuti, ke ho netefatsa hore ho na le tsela e nepahetseng ya ho botsa dipotso le tshebediso ya puo. Ha matitjhere a fana ka bothata ba dipalo tsa mantswe, ba lokela ho mamela ka hloko dikarabelo tsa baithuti mme ba ba tataise ho rarolla bothata boo ba sebedisa mawa a loketseng boemo ba bona ba kutlwisiso.

Diphoustara tse ka hara *Buka ya Diphoustara* di etseditswe ho fa baithuti sete ya ditshwantsho tse tsamaelanang le maphelo a bona mme di fana ka ditikoloho bakeng sa ho rarolla mathata a bophelo ba nnete.

Ho Beke ya 10 Letsatsi la 4 (leqephe la 181 la *Tataiso ya Diketsahalo: Kotara ya 2*), Phoustara ya 1 e sebediswa ho kgothaletsa baithuti ho rarolla mathata a kenyeletsang dinomoro tsa 1–5.

- In **Activity 11** participants refer to Poster 1 to generate a series of appropriate number-related questions.
- These questions cover the following skills: comparing, matching, counting, addition, subtraction, grouping and equal sharing. They should involve a range of vocabulary. Remind participants that the focus of their questions should be on maths and that the language used should be clear and simple. Use the examples below to wrap up **Activity 11**.

Comparing/one-to-one correspondence (matching)
- *Are there enough spoons for each bowl?*
- *How many more spoons do we need so that there is one spoon for each bowl?*
- *Are there more glasses on the top shelf or on the bottom shelf?*

Counting
- *How many glasses are there in the cupboard?*
- *Are there enough chairs for the number of people in the kitchen?*

Addition
- *There are four green apples and four red apples in the fridge. How many apples are there in the fridge?*
- *Thami has three blocks. There are four blocks on the floor. How many blocks are there altogether?*

Subtraction
- *There are six eggs in the door of the fridge. Dad cooks four eggs. How many eggs will be left in the fridge?*
- *There are five mugs in the kitchen. Four mugs are white. How many mugs are yellow?*
- *There are eight apples in the fridge. Four apples are green. How many apples are red?*

Grouping
- *Each child has two eyes. How many eyes would there be altogether on three children?*

Equal sharing
- *There are three oranges in a bag. Three children share the oranges. How many oranges will each child get?*

Activity 11

In your groups, refer to Poster 1. Think of appropriate word problems for each of these skills:

- comparing
- matching
- counting
- addition
- subtraction
- grouping
- equal sharing.

Dinoutso tsa motsamaisi

♦ **Ho Ketsahalo ya 11** bankakarolo ba sheba ho Phoustara ya 1 ho hlahisa letoto la dipotso tse loketseng tse tsamaelanang le dinomoro.

♦ Dipotso tsena di kenyeletsa bokgoni bo latelang: ho bapisa, ho nyalanya, ho bala, ho kopanya, ho tlosa, ho bea ka dihlopha le ho aba ka ho lekana. Di lokela ho kenyeletsa letoto la tlotlontswe. Hopotsa bankakarolo hore tsepamiso ya dipotso tsa bona e lokela ho ba ho mmetse le hore puo e sebediswang e lokela ho hlaka mme e be bonolo.

Sebedisa mehlala e ka tlase ho qetella **Ketsahalo ya 11**.

Ho bapisa/neeletsano pakeng tsa ntho tse pedi (ho nyalanya)

- Na ho na le dikgaba tse lekaneng bakeng sa sejana ka seng?

- Re hloka dikgaba tse kae hape ele hore ho be le kgaba e le nngwe sejaneng ka seng?

- Na ho na le digalase tse ngata shelofong e ka hodimo kapa shelofong e ka tlase?

Ho bala dintho

- Ho na le digalase tse kae ka khabotong?

- Na ho na le ditulo tse lakaneng bakeng sa lenane la batho ba ka kitjhineng?

Ho kopanya

- Ho na le diapole tse nne tse tala le diapole tse nne tse kgubedu ka sehatsetsing. Ho na le diapole tse kae ka sehatsetsing?

- Thami o na le diboloko tse tharo. Ho na le diboloko tse nne fatshe. Ho na le diboloko tse kae kaofela?

Ho tlosa

- Ho na le mahe a tsheletseng lemating la sehatsetsi. Ntate o pheha mahe a mane. Ho tla sala mahe a makae ka sehatsetsing?

- Ho na le mabekere a mahlano ka kitjhineng. Mabekere a mane a masweu. Ke mabekere a makae a masehla?

- Ho na le diapole tse robedi ka sehatsetsing. Diapole tse nne di tala. Ke diapole tse kae tse kgubedu?

Ho bea ka dihlopha

- Ngwana ka mong o na le mahlo a mabedi. Ho tla ba le mahlo a makae kaofela baneng ba bararo?

Ho aba ka ho lekana

- Ho na le dilamunu tse tharo ka mokotleng. Bana ba bararo ba arolelana dilamunut seo. Ngwana ka mong o tla fumana dilamunu tse kae?

Ketsahalo ya 11

Dihlotshwaneng tsa lona, shebang ho Phoustara ya 1. Nahanang ka dipalo tsa mantswe tse tshwanetseng bakeng sa bokgoni ka bong ho tse latelang:

♦ ho bapisa

♦ ho nyalanya

♦ ho bala dintho

♦ ho kopanya

♦ ho tlosa

♦ ho bea ka dihlopha

♦ ho aba ka ho lekana.

_____
_____
_____
_____

When you do word-problem activities with your learners, allow them to use their fingers or counters to help them solve the problems.

One of the sections in Numbers, Operations and Relationships is, 'Solve problems in context'. In your groups, read the content overview for Term 2 for this section on page 120 of the *Concept Guide.* Then complete Activity 12.

Activity 12

Reflect on Activity 11.

1. What concepts and skills are taught and learnt in the topic: Problem-solving techniques?

_____
_____

Counting using concrete apparatus, i.e. counters, physical number ladder, ten structure beads.

2. What concepts and skills are taught and learnt in topic: Addition and subtraction?

_____
_____

Use counters; orally solve problems.

_____

_____

_____

_____

Ha le etsa diketsahalo tsa dipalo tsa mantswe mmoho le baithuti ba hao, ba dumelle ho
sebedisa menwana ya bona kapa dibadi ho ba thusa ho rarolla mathata.

Dinoutso tsa motsamaisi
♦ Karolong ya sehlopha sohle kopa mehlala ya dipotso bakeng sa mokgahlelo ka mong. E ngole ho fliptjhate bakeng sa dipuisano tse ding hape.
♦ Ntlha ya sehlooho eo ho buisanwang ka yona e kenyeletsa:
- Tsela eo o bopang puo ka hara dipalo tsa mantswe e bontsha hore e bobebe kapa e thata bakeng sa baithuti ho ka e utlwisisa le ho e rarolla, mohl.:
Ho na le dipompong tse 10. Ke ja tse 4. Ho setse tse kae? (Ena e sebedisa sebopeho se bobebe sa puo.)
Ke rekile dipompong. Ka ja dipompong tse 6. Ho setse tse 4. Ke ne ke rekile dipompong tse kae? (Ena e sebedisa sebopeho se thata ho feta.)
- Baithuti ba hloka ho bontshwa dibopeho tse fapaneng tsa mathata a dipalo tsa mantswe ele hore ba kgone ho sebedisa bokgoni ba bona le ho fana ka mabaka ditikolohong tse fapaneng.

E nngwe ya dikarolo ho Dinomoro, Matshwao le Dikamano ke, 'Rarolla mathata ho ya ka
tikoloho'. Ka dihlotshwana tsa lona, balang tjhebokakaretso ya dikahare bakeng sa
Kotara ya 2 bakeng sa karolo ena leqepheng la 121 la *Tataiso ya Mareo.* Ebe le phethela
Ketsahalo ya 12.

 Ketsahalo ya 12

Ikgopotseng Ketsahalo ya 11.

1. Ke mareo le bokgoni bofe tse rutwang le ho ithutwa ho sehlooho: Mawa a ho rarolla
    mathata?

_____

_____

Ho bala o sebedisa disebediswa tse tshwarehang, ke hore, dibadi, leri ya dinomoro e tshwarehang, difaha
tsa sebopeho tse leshome.

2. Ke mareo afe le bokgoni bofe tse rutwang le ho ithutwa ho sehlooho: Ho kopanya le
    ho tlosa?

_____

_____

Sebedisa dibadi; rarolla mathata ka molomo.

Estimation

Learners develop estimation skills and make a 'sensible' guess about 'how many objects' there are in a collection. During measurement activities, they estimate how heavy or how long something is, or how many cups will fill a jug before they do the actual measuring.

Facilitator's notes
♦ Find two see-through containers (e.g. peanut butter jars). Fill one with eight small objects and the other with eight larger objects.
♦ Ask: - *How many objects do you think are in this jar?*   - *How many objects do you think are in the other jar?*   - *Do you think there are the same number of objects in each jar?*   - *How can we find out which jar has more objects?* (Count the objects.)
♦ Remind participants that estimation is a reasonable guess. By showing the same number of objects in the bottles but using different-sized objects, learners are focusing on the number rather than the size of the object or the amount of space they fill in the container (volume).

Activity 13

The facilitator will show you two jars. Estimate how many objects are in each jar and respond to her questions.

_____

_____

Learners need to be able to use terms such as: *too few, too many, more than, enough, not enough, nearly, close to, about the same, just under, just over*.

Teachers can plan estimation activities that encourage learners to make sensible guesses about the quantity of a group of objects or the measurement of an object.

Term 2 Content Summary: Week 10

Refer to Appendix A: Term 2 Weekly Content Summary (Weeks 8–10). Read the content overview for Week 10: Numbers, Operations and Relationships on page 20 of *Activity Guide: Term 2*.

Kakanyo

Baithuti ba fumana bokgoni ba ho akanya mme ba noha ka tsela e 'bohlale' mabapi le 'hore ke dintho tse kae' ka hara pokello. Nakong ya diketsahalo tsa ho metha, ba akanya hore ntho e itseng e boima hakae kapa e telele hakae, kapa ke dikopi tse kae tse tlang ho tlatsa jeke pele ba hlile ba metha.

Dinoutso tsa motsamaisi

♦ Batla ditshelo tse pedi tse bonaletsang (mohl. ditshelo tsa *peanut butter*). Tlatsa se le seng ka dintho tse robedi tse nyane le se seng ka dintho tse robedi tse kgolwanyane.
♦ Botsa:
   - Le nahana hore ke dintho tse kae ka hara setshelo sena?
   - Le nahana hore ke dintho tse kae ka hara setshelo se seng?
   - Na le nahana hore ho na le lenane le lekanang la dintho setshelong ka seng?
   - Re ka tseba jwang hore ke setshelo sefe se nang le dintho tse ngata? (Balang dintho.)
♦ Hopotsa bankakarolo hore kakanyo ke ho noha ho bohlale. Ka ho bontsha lenane le lekanang la dintho ka hara dibotlolo ka ho sebedisa dintho tse boholo bo fapaneng, baithuti ba tsepama ho lenane ho ena le ho boholo ba ntho kapa boholo ba sebaka seo ba se tlatsang ka hara setshelo (volumo).

Ketsahalo 13

Motsamaisi o tla o bontsha ditshelo tse pedi. Akanya hore ke dintho tse kae ka hara setshelo ka seng mme o arabe dipotso tsa hae.

_____

_____

Baithuti ba lokela ho kgona ho sebedisa mareo a kang: *mmalwa haholo, ngata haholo, ngata ho feta, lekane, ha e a lekana, batlile, haufi le, di batla di lekana, ka tlase feela, ka hodimo feela.*

Matitjhere a ka rera diketsahalo tsa kakanyo tse kgothaletsang baithuti ho noha ka bohlale mabapi le bongata ba sehlopha sa dintho kapa mometho wa ntho.

Kotara ya 2 Kakaretso ya Dikahare: Beke ya 10

Sheba Sehlomathiso A: Kotara ya 2 Kakaretso ya Dikahare tsa Beke le beke (Dibeke tsa 8–10). Bala tjhebokakaretso ya dikahare bakeng sa Beke ya 10: Dinomoro, Matshwao le Dikamano leqepheng la 21 la *Tataiso ya Diketsahalo: Kotara ya 2*.

Activity 14

1. What are the topics for Week 10?

_____
_____

2. What new knowledge is introduced in this week?

_____
_____
_____

3. What skills from previous weeks are practised?

_____
_____
_____

Refer to the estimation activities in Week 10 (*Activity Guide: Term 2*, pages 174 (Day 1), 176 (Day 2) and 178 (Day 3)).

Ketsahalo ya 14

1. Dihlooho bakeng sa Beke ya 10 ke dife?

   _____

   _____

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

   _____

   _____

   _____

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

   _____

   _____

   _____

Shebang ho diketsahalo tsa kakanyo ho Beke ya 10 (*Tataiso ya Diketsahalo: Kotara ya 2*, maqephe a 175 (Letsatsi la 1), 177 (Letsatsi la 2) le 179 (Letsatsi la 3)).

Session 4: Numbers, Operations and Relationships

45 minutes

The Maths Programme focuses on one main Content Area each week. You will have noticed that even though when the weekly Content Area Focus is not 'number', the number routines continue every day of each week. The reason for this is that repetition and practice are essential for consolidating the learners' developing number skills.

The whole class activities for each day of the week always start with three number routines:
♦   a song or rhyme
♦   oral counting
♦   counting objects.
These three number routines are planned to match the number range for each term.

Facilitator's notes
♦   In **Activity 15**, participants will use *Activity Guide: Term 2* to find the daily number routines and complete the table. This is to highlight the fact that number routines are practised every day of each week regardless of the Content Area Focus and to show the progression in number range across the term.

Activity 15

Find the Term 2 daily number routines in *Activity Guide: Term 2* and complete the table. Week 1 has been done for you.

Week	Content Area Focus	Song or rhyme	Oral counting	Counting objects
1	Numbers, Operations and Relationships	A rhyme from Term 1	1–10 5–1	1–5 (birthday chart)
2				

Karolo ya 4: Dinomoro, Matshwao le Dikamano

Metsotso e 45

Lenaneo la Mmetse le tsepame ho Karolo ya Dikahare ya sehlooho e le nngwe beke ka nngwe. O tla lemoha hore esitana le ha Tsepamo ya Karolo ya Dikahare ya beke le beke e se 'nomoro', tlwaelo ya dinomoro e a tswella letsatsi le letsatsi bakeng sa beke ka nngwe. Lebaka la sena ke hore phetapheto le boikwetliso di bohlokwa bakeng sa ho kgobokanya bokgoni ba dinomoro ba baithuti bo holang.

Diketsahalo tsa tlelase yohle bakeng sa letsatsi ka leng la beke kamehla di qala ka ditlwaelo tse tharo tsa dinomoro:

♦ pina kapa raeme
♦ ho bala ka molomo
♦ ho bala dintho.

Ditlwaelo tsena tse tharo di rerilwe ho nyalanya letoto la dinomoro bakeng sa kotara ka nngwe.

Dinoutso tsa motsamaisi
♦ Ho **Ketsahalo ya 15**, bankakarolo ba tla sebedisa *Tataiso ya Diketsahalo: Kotara ya 2* ho fumana ditlwaelo tsa dinomoro tsa letsatsi le letsatsi mme ba tlatse tafole. Sena ke ho hlakisa taba ya hore ditlwaelo tsa dinomoro di ikwetliswa letsatsi le leng le le leng la beke ka nngwe ho sa natswe Tsepamiso ho Karolo ya Dikahare le ho bontsha kgatelopele letotong la dinomoro kotareng kaofela.

Ketsahalo ya 15

Fumana ditlwaelo tsa dinomoro tsa letsatsi le letsatsi tsa Kotara ya 2 ho *Tataiso ya Diketsahalo: Kotara ya 2* mme o tlatse tafole ena. Beke ya 1 o se o e etseditswe.

Beke	Tsepamiso ho Karolo ya Dikahare	Pina kapa raeme	Ho bala ka molomo	Ho bala dintho
1	Dinomoro, Matshwao le Dikamano	Raeme e tswang ho Kotara ya 1	1–10 5–1	1–5 (tjhate ya matsatsi a tswalo)
2				

3			
4			
5			
6			
7			
8			
9			
10			

Having looked through the number content for Term 2, you will have noticed that the number routines are practised every day of each week regardless of the Content Area Focus and that the progression in number range increases across the term.

3			
4			
5			
6			
7			
8			
9			
10			

Haeba le ile la sheba ho dikahare tsa dinomoro bakeng sa Kotara ya 2, le tla be le lemohile hore ditlwaelo tsa dinomoro di ikwetliswa letsatsi le leng le le leng la beke ka nngwe ho sa natswe Tsepamiso ho Karolo ya Dikahare le hore kgatelopele letotong la dinomoro e eketseha kotareng kaofela.

Session 5: Term 2 Assessment

1 hour

📹 Video 2

Watch the video of a teacher presenting word problems to a small group of learners.

Observe how each learner solves the problem. Notice how the teacher uses prompts when a learner has difficulty.

Facilitator's notes
♦   PPT: Rubric with the 1–7 rating scale.
♦   Discuss how the descriptions in the rubric provide distinguishing assessment criteria for each rating code.

👥 Activity 16

Look at the rubric on page 106 of the *Concept Guide*.

In your groups, discuss how you would score each of the learners using this scale. Give reasons for your decisions based on the assessment criteria for each rating code.

_____

_____

_____

_____

_____

Karolo ya 5: Kotara ya 2 Tekanyetso

Video ya 2

Shebellang video ya titjhere a hlahisa dipalo tsa mantswe ho sehlotshwana sa baithuti.

Shebellang kamoo moithuti ka mong a rarollang bothata. Lemoha kamoo titjhere a sebedisang mehlala ha moithuti a thatafallwa. .

Dinoutso tsa motsamaisi
♦ PPT: Ruburiki e nang le sekala sa tekanyo sa 1–7.
♦ Buisanang kamoo ditlhaloso tse ho ruburiki di fanang ka makgetha a tekanyetso a kgethollang bakeng sa khoutu ka nngwe ya ho lekanya.

Ketsahalo ya 16

Sheba ruburiki e leqepheng la 107 la *Tataiso ya Mareo*.

Dihlotshwaneng tsa lona, buisanang ka kamoo le ka fang moithuti ka mong matshwao le sebedisa sekala sena. Fanang ka mabaka bakeng sa diqeto tsa lona le itshetlehile ka makgetha a tekanyetso bakeng sa khoutu ka nngwe ya ho lekanya.

_____
_____
_____
_____
_____

Closing activities **15 minutes**

Activity 17

Workshop reflection: Take a few minutes to reflect on the day. Page through your *Participant's Workbook* to remind yourself of what was covered. Write down any questions or comments to share with the group.

_____

_____

_____

_____

_____

Take back to school task

1. Use *Activity Guide: Term 2* to plan and implement Weeks 8–10 of the Maths Programme.
2. Write an evaluation of what worked well, what did not work so well and what you could do differently to improve teaching and learning.
3. Bring your evaluation to the next workshop.

Evaluation

Complete the Evaluation Form.

Diketsahalo tsa ho kwala

Dinoutso tsa motsamaisi
♦ **Boikgopotso ba wekshopo:** Kopa bankakarolo ho nka metsotso e mmalwa ho ikgopotsa ka letsatsi leo le ho phetla *Dibuka tsa Mosebetsi tsa Monkakarolo* tsa bona. Ere ba ngole fatshe dipotso kapa ditshwaelo dife kapa dife tseo ba tlang ho di abelana le sehlopha sohle.
♦ **Mosebetsi wa kgutlela le yona sekolong:** Bala mosebetsi ona. Botsa hore ebe ho na le ho sa hlakang le ho hlokang tlhaloso e fetang.
♦ **Tlhahlobo:** Fana ka dikhopi tsa Foromo ya Tlhahlobo ya Wekshopo mme o re bankakarolo ba tlatse foromo eo.
♦ **Wekshopo e latelang:** Fana ka matsatsi bakeng sa wekshopo e latelang mme o kwale wekshopo.

Ketsahalo ya 17

Boikgopotso ba wekshopo: Nka metsotso e mmalwa ho ikgopotsa ka letsatsi leo. Phetla *Buka ya Mosebetsi ya Monkakarolo* ya hao ho ikgopotsa ka tse rutilweng. Ngola fatshe dipotso kapa ditshwaelo dife kapa dife bakeng sa ho abelana le sehlopha sohle.

_____
_____
_____
_____
_____

Mosebetsi wa kgutlela le yona sekolong

1. Sebedisa *Tataiso ya Diketsahalo: Kotara ya 2* bakeng sa ho rera le ho kenya tshebetsong Dibeke tsa 8–10 tsa Lenaneo la Mmetse.
2. Ngola tlhahlobo ya tse sebeditseng hantle, tse sa sebetsang hantle hakaalo le tseo o ka di etsang ka tsela e fapaneng hore o ntlafatse ho ruta le ho ithuta.
3. Tloo le tlhahlobo ya hao wekshopong e latelang.

Tlhahlobo

Tlatsa Foromo ya Tlhahlobo.

APPENDIX A: TERM 2 WEEKLY CONTENT SUMMARY (WEEKS 8–10)

Term 2: Activity Plan

<table>
<tr><td colspan="5" align="center">Week 8</td></tr>
<tr><td colspan="5">CONTENT AREA: SPACE AND SHAPE (GEOMETRY)</td></tr>
<tr><td colspan="5">TOPIC: Properties of shapes – compare same and different, sort according to properties; position; orientation and views
INTRODUCE NEW KNOWLEDGE: Follow direction and midline crossing
PRACTISE: Oral counting 1–20, counting backwards from 7, sequencing numbers 1–5, counting objects 1–7, reinforce number concept 1–5, what number comes before/after, practise using all shapes</td></tr>
<tr><td colspan="2">Whole class activities</td><td>Teacher-guided activity</td><td colspan="2">Workstation activities</td></tr>
<tr><td>Day 1</td><td>Forwards/backwards.</td><td rowspan="5">Counting – show me 1–3, 5–7 counters.
Working with all taught shapes.
Midline crossing. Position – direction.
Forwards/backwards.</td><td>Activity 1</td><td>Sorting activity – using cut-out shapes.</td></tr>
<tr><td>Day 2</td><td>Reinforce all shapes (I spy …).</td><td>Activity 2</td><td>Make shapes using playdough and make a copy.</td></tr>
<tr><td>Day 3</td><td>Shape game.</td><td rowspan="2">Activity 3</td><td rowspan="2">Masking tape shapes – learners follow shapes using blocks.</td></tr>
<tr><td>Day 4</td><td>What can I do: Lost my … (shape).</td></tr>
<tr><td>Day 5</td><td>Obstacle course (requires a big space/outdoors). Midline crossing.</td><td>Activity 4</td><td>Match shapes using shape cards.</td></tr>
<tr><td colspan="5" align="center">Week 9</td></tr>
<tr><td colspan="5">CONTENT AREA: MEASUREMENT</td></tr>
<tr><td colspan="5">TOPIC: Length – compare and order objects using appropriate vocabulary to describe length
INTRODUCE NEW KNOWLEDGE: Measuring and comparing length (long/short, longer/shorter, longest/shortest)
PRACTISE: Oral counting 1–20, counting backwards from 7, counting objects 1–7, estimation 1–7, tall/short</td></tr>
<tr><td colspan="2">Whole class activities</td><td>Teacher-guided activity</td><td colspan="2">Workstation activities</td></tr>
<tr><td>Day 1</td><td>Longer/shorter (height).</td><td rowspan="5">Longer than/shorter than.
Taller than/shorter than.
Measurement with everyday objects.</td><td rowspan="2">Activity 1</td><td rowspan="2">Shorter/longer (pre-cut strips of different length).</td></tr>
<tr><td>Day 2</td><td>Comparing lengths of ribbons.</td></tr>
<tr><td>Day 3</td><td>Sorting objects by length (coloured paper strips).</td><td>Activity 2</td><td>Wiggly worms (to make a poster shortest to longest).</td></tr>
<tr><td>Day 4</td><td>Height chart comparison (from Term 1).</td><td>Activity 3</td><td>Measure blocks using string.</td></tr>
<tr><td>Day 5</td><td>Height chart comparison (taller/shorter than you).</td><td>Activity 4</td><td>Playdough and lined paper (different lengths).</td></tr>
</table>

# SEHLOMATHISO A: KOTARA YA 2 KAKARETSO YA DIKAHARE TSA BEKE LE BEKE (DIBEKE TSA 8–10)

Kotara ya 1: Moralo wa Ketsahalo

<table>
<tr><td colspan="3" align="center">Beke ya 8</td></tr>
<tr><td colspan="3">KAROLO YA DIKAHARE: SEBAKA LE SEBOPEHO (JEOMETRI)</td></tr>
<tr><td colspan="3">SEHLOOHO: Makgetha a dibopeho – bapisa tse tshwanang le tse fapaneng, hlophisa ho ya ka makgetha; boemo; tlwaetso le ditjhebo
TSEBISA TSEBO E NTJHA: Latela tshupiso le ho tshela molahare
HO ETSA: Ho bala ka molomo 1–20, ho bala o kgutlela morao ho tloha ho 7, ho hlahlamanya dinomoro 1–5, ho bala dintho 1–7, hatella kgopolo ya dinomoro 1–5, ke nomoro efe e tlang pele/kamora, ikwetlise ho sebedisa dibopeho tsohle</td></tr>
<tr><td>Diketsahalo tsa tlelase yohle</td><td>Ketsahalo e tataiswang ke titjhere</td><td>Diketsahalo tsa diteisheneng tsa tshebetso</td></tr>
<tr>
<td>
<table>
<tr><td>Letsatsi la 1</td><td>Pele/Morao.</td></tr>
<tr><td>Letsatsi la 2</td><td>Hatella dibopeho tsohle (ke bona …).</td></tr>
<tr><td>Letsatsi la 3</td><td>Papadi ya dibopeho.</td></tr>
<tr><td>Letsatsi la 4</td><td>Nka etsa eng: Ke lahlehetswe ke … (sebopeho).</td></tr>
<tr><td>Letsatsi la 5</td><td>Tselana ya ditshita (e hloka sebaka se seholo/ka ntle). Ho tshela molahare.</td></tr>
</table>
</td>
<td>Ho bala – mpontshe dibadi tse 1–3, 5–7.
Ho sebetsa ka dibopeho tsohle tse rutilweng.
Ho tshela molahare. Boemo – tshupiso. Pele/Morao.</td>
<td>
<table>
<tr><td>Ketsahalo ya 1</td><td>Ketsahalo ya ho hlophisa – ho sebedisa dibopeho tse sehilweng.</td></tr>
<tr><td>Ketsahalo ya 2</td><td>Etsang dibopeho le sebedisa hlama ya ho bapala mme le etse khopi.</td></tr>
<tr><td>Ketsahalo ya 3</td><td>Dibopeho tsa masking theipi – baithuti ba latela dibopeho ba sebedisa diboloko.</td></tr>
<tr><td>Ketsahalo ya 4</td><td>Nyalanyang dibopeho le sebedisa dikarete tsa dibopeho.</td></tr>
</table>
</td>
</tr>
<tr><td colspan="3" align="center">Beke ya 9</td></tr>
<tr><td colspan="3">KAROLO YA DIKAHARE: MOMETHO</td></tr>
<tr><td colspan="3">SEHLOOHO: Botelele – bapisa le ho bea dintho ka tatelano o sebedisa tlotlontswe e loketseng ho hlalosa bolelele
TSEBISA TSEBO E NTJHA: Ho metha le ho bapisa botelele (telele/kgutshwane, telele ho feta/kgutshwane ho feta, telele ho fetisisa/kgutshwane ho fetisisa)
HO ETSA: Ho bala ka molomo 1–20, ho bala o kgutlela morao ho tloha ho 7, ho bala dintho 1–7, ho lekanyetsa 1–7, molelele/mokgutshwane</td></tr>
<tr><td>Diketsahalo tsa tlelase yohle</td><td>Ketsahalo e tataiswang ke titjhere</td><td>Diketsahalo tsa diteisheneng tsa tshebetso</td></tr>
<tr>
<td>
<table>
<tr><td>Letsatsi la 1</td><td>Telele/kgutshwane ho feta (bophahamo).</td></tr>
<tr><td>Letsatsi la 2</td><td>Ho bapisa botelele ba diribono.</td></tr>
<tr><td>Letsatsi la 3</td><td>Ho hlophisa dintho ho ya ka botelele (dikgetjhana tsa dipampiri tse mebala).</td></tr>
<tr><td>Letsatsi la 4</td><td>Papiso ya tjhate ya bophahamo (ho tswa ho Kotara ya 1).</td></tr>
<tr><td>Letsatsi la 5</td><td>Papiso ya tjhate ya bophahamo (molelele ho/mokgutshwane ho wena).</td></tr>
</table>
</td>
<td>E telele ho feta/kgutshwane ho feta. O motelele ho/mokgutshwane ho. Mometho ka dintho tsa kamehla.</td>
<td>
<table>
<tr><td>Ketsahalo ya 1</td><td>Kgutshwane/telele ho (dikgetjhana tse sehilweng pele tsa bolelele bo fapaneng).</td></tr>
<tr><td>Ketsahalo ya 2</td><td>Diboko tse nyeunyang (ho etsa phoustara ya se sekgutshwane ho isa ho se setelele ho fetisisa).</td></tr>
<tr><td>Ketsahalo ya 3
Ketsahalo ya 4</td><td>Metha diboloko o sebedisa kgwele.
Hlama ya ho bapala le pampiri e sehilweng mela (bolelele bo fapaneng).</td></tr>
</table>
</td>
</tr>
</table>

APPENDIX B: SHAPES FOR SORTING/SEHLOMATHISO B: DIBOPEHO BAKENG SA HO HLOPHISWA

Cut along the dotted lines./Seha hodima mela ya matheba.
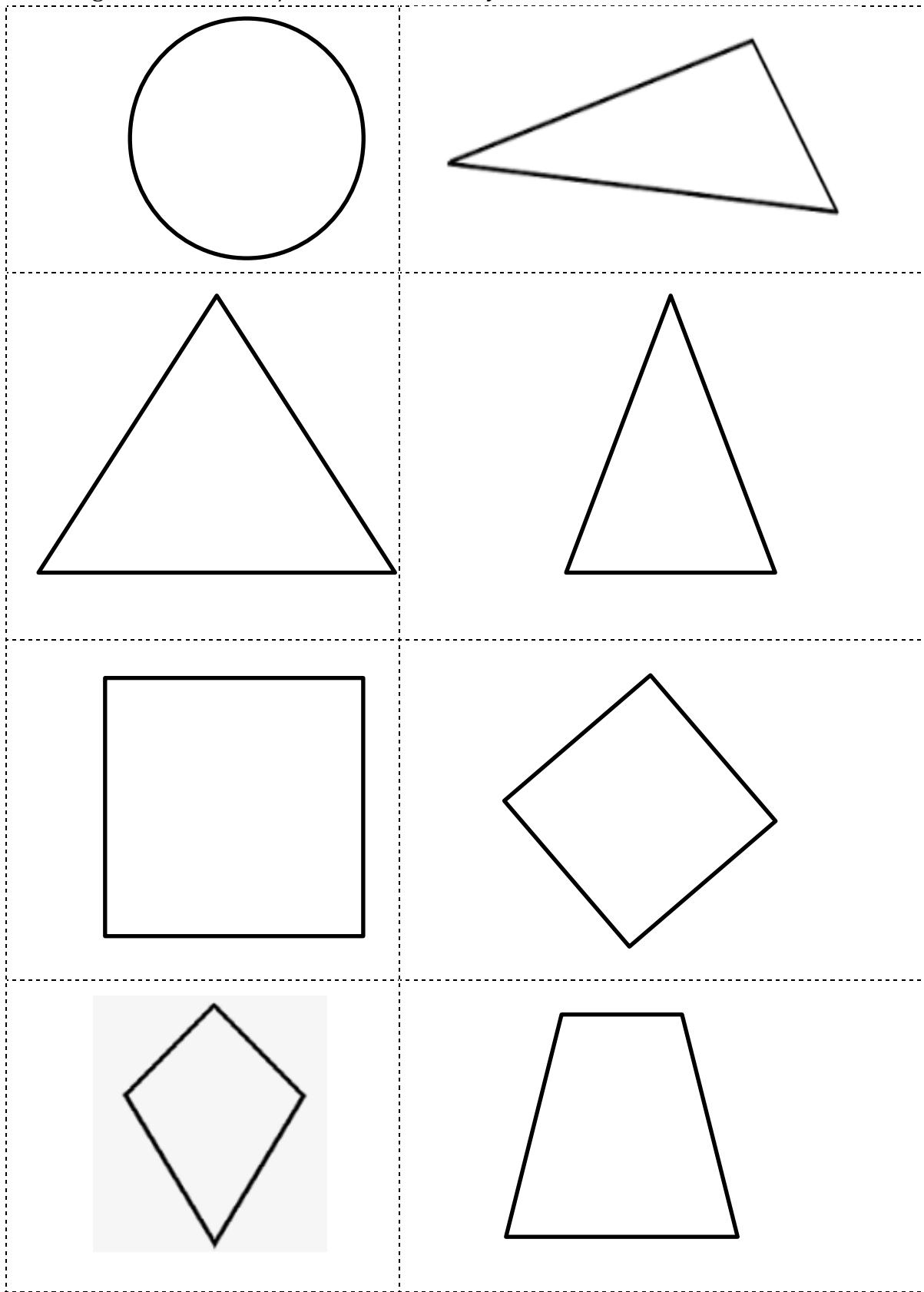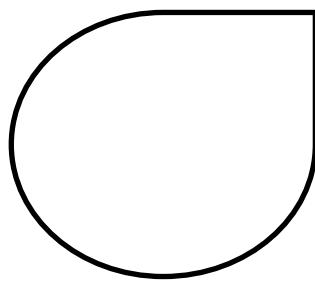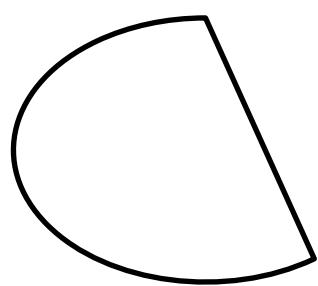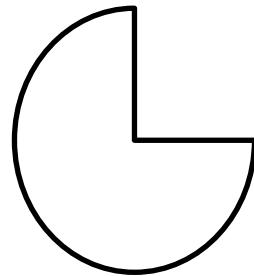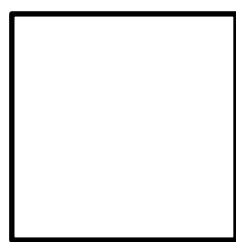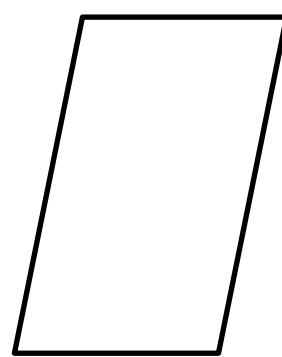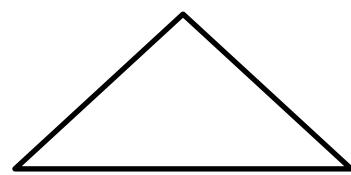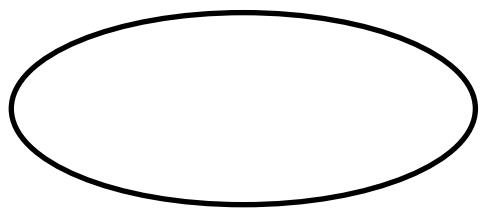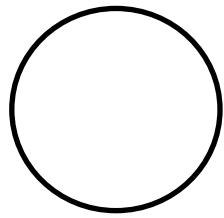
Workshop 6 Evaluation Form

1. Did the workshop meet your expectations?

_____
_____
_____
_____

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

_____
_____
_____
_____

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

_____
_____
_____
_____

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

_____
_____
_____
_____

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

_____
_____
_____
_____

Foromo ya Tlhahlobo ya Wekshopo ya 6

1. Na wekshopo ena e fihletse ditebello tsa hao?

_____
_____
_____
_____

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

_____
_____
_____
_____

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

_____
_____
_____
_____

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

_____
_____
_____
_____

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

_____
_____
_____
_____