Lenaneo le Ntlafaditsweng la Mmetse la Kereiti ya R

Grade R Mathematics Improvement Programme

Wekshopo ya 10 ● Workshop 10

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 ananetswong 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 tenth of twelve Grade R Mathematics Improvement Programme (Maths 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 continue assisting teachers to implement the Maths Programme in their classrooms. Participants will have the opportunity to reflect on their implementation of the Maths Programme and discuss their planning, teaching and assessment. They will also consider learner progress, and individual developmental and learning needs. Participants will reflect on appropriate assessment strategies for capturing learner progress. The workshop explores the content for Term 4 Weeks 1–3 and its classroom implementation.

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 3 Weeks 7–10
- To reflect on the use of the guiding principles of teaching maths in Grade R
- To deepen understanding of continuous learner observation in Grade R
- To reflect on informal forms of assessment in Grade R
- To reflect on challenges and find solutions to implementing the Maths Programme
- To map out the Maths Programme content to be taught in Term 4 Weeks 1–3

Workshop content
- Opening and reflection   (1 hour)
- Session 1: Observation and assessment   (1 hour)

TEA
- Session 2: The guiding principles of teaching maths in Grade R   (1 hour)
- Session 3: Introducing numbers 10 and 0   (1 hour)

LUNCH
- Session 4: Planning for teaching   (1½ hours)
- Closing activities   (30 minutes)

Tjhebokakaretso

Sepheo

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

Sepheo sa wekshopo ena ke ho thusa matitjhere ho kenya tshebetsong Lenaneo la Mmetse ka diphaposing tsa bona tsa borutelo. Bankakarolo ba tla fumana monyetla wa ho ikgopotsa ka ho kenya tshebetsong Lenaneo la Mmetse le ho buisana ka ho rera, ho ruta le ditekanyetso tsa bona. Hape ba tla lemoha kgatelopele ya baithuti, le ditlhoko tsa ho ithuta le tsa ntshetsopele tsa moithuti ka mong. Bankakarolo ba tla ikgopotsa ka mawa a tekanyetso a lokelang bakeng sa ho rekota kgatelopele ya baithuti. Wekshopo ena e sibolla dikahare tsa Kotara ya 4 Dibeke tsa 1–3 le ho kenngwa tshebetsong ha yona diphaposing tsa borutelo.

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

Diphetho tsa ho ithuta

♦ Ho shebisisa ho kenya tshebetsong ha Kotara ya 3 Dibeke tsa 7–10
♦ Ho ikgopotsa tshebediso ya dintlhatheo tse tataisang ho ruta mmetse Kereiting ya R
♦ Ho tebisa kutlwisiso ya ditemoho tse tswellang tsa baithuti Kereiting ya R
♦ Ho ikgopotsa ka mekgwa e sa hlophiswang ya tekanyetso Kereiting ya R
♦ Ho sekaseka diphephetso le ho fumana ditharollo bakeng sa ho kenya tshebetsong Lenaneo la Mmetse
♦ Ho ngola ka ho hlaka dikahare tsa Lenaneo la Mmetse tse lokelang ho rutwa Kotareng ya 4 Dibekeng tsa 1–3

Dikahare tsa wekshopo

♦ Pulo le boikgopotso (Hora e 1)
♦ Karolo ya 1: Temoho le tekanyetso (Hora e 1)
TEYE
♦ Karolo ya 2: Dintlhatheo tse tataisang ho ruta mmetse Kereiting ya R (Hora e 1)
♦ Karolo ya 3: Ho tsebisa dinomoro 10 le 0 (Hora e 1)
DIJO TSA MOTSHEARE
♦ Karolo ya 4: Ho etsa moralo bakeng sa ho ruta (Dihora tse 1½)
♦ Diketsahalo tsa ho kwala (Metsotso e 30)

Preparation

- PPT welcome and outcomes
- Familiarise yourself with all the PowerPoints and videos
- Read:
  Concept Guide, pages 14–73
  Activity Guide: Term 4, pages 22–69
- Bring the post box
- Remind participants to bring their:
  Concept Guide
  Activity Guide: Term 3
  Activity Guide: Term 4
  Poster Book
- Cut out the eight pictures of the guiding principles (Appendix B)
- Prepare one set of the number cards in Appendix C for each group

Materials

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

Tokisetso

- PPT kamohelo le diphetho
- Itlwaetse *PowerPoints* le divideo tsohle
- Bala:
  Tataiso ya Mareo, maqephe a 14–73
  Tataiso ya Diketsahalo: Kotara ya 4, maqephe a 22–69
- Tloo le lebokoso la poso
- Hopotsa bankakarolo ho tla le:
  Tataiso ya Mareo
  Tataiso ya Diketsahalo: Kotara ya 3
  Tataiso ya Diketsahalo: Kotara ya 4
  Buka ya Diphoustara
- Seha o ntshe ditshwantsho tse robedi tsa dintlhatheo tse tataisang (Sehlomathiso B)
- Lokisetsa sete e le nngwe ya dikarete tsa dinomoro ho Sehlomathiso C bakeng sa sehlotshwana ka seng

Disebediswa

- Pampiri ya fliptjhate, dikoki
- Prestik
- *Khiti ya Disebediswa* bakeng sa sehlopha ka seng

Opening and reflection

1 hour

Reflection involves thinking and talking about your experiences and what you have learnt.

Reflection on implementation

Facilitator's notes
♦   PPT: Learning outcomes of the workshop. ♦   Discuss the post box comments and feedback from the previous workshop. Remind participants to 'post' any new comments and feedback during the workshop. ♦   Remind participants of the *Take back to school task* from the end of Workshop 9. ♦   Refer participants to **Activity 1** and read through the instructions aloud. ♦   Give each group a sheet of flipchart paper. Participants complete the activity in their groups. Groups then present their newspaper article. ♦   After the presentations, summarise the successes and challenges and discuss the implications for classroom implementation.

Here is the *Take back to school task* from Workshop 9.

> **❶ Take back to school task (Workshop 9)**
>
> 1. Use *Activity Guide: Term 3* to plan and implement Term 3 Weeks 7–10 of the Maths Programme.
> 2. Make notes of what worked well, what did not work well and how you resolved any challenges during your implementation of Term 3 Weeks 7–10.
> 3. Write comments in the book that you use to keep track of each learner's progress (learner observation book). Use the **'Check that learners are able to'** observation list (eye box) during each of the teacher-guided activities to guide your observations and comments.
> 4. Bring your learner observation book and the notes you made when reflecting on each day's teaching to the next workshop.
> 5. Bring a copy of the Term 3: Exemplar Record of Continuous Assessments (from *Activity Guide: Term 3*) to the next workshop.

👥 Activity 1

1. In your group, prepare a newspaper article on teaching and learning maths in Grade R. Use the Maths Programme and your classroom implementation of it as the basis for your article. Include the following:

Pulo le boikgopotso Hora e 1

Boikgopotso bo kenyeletsa ho nahana le ho bua ka boitsebelo ba hao le tseo o ithutileng tsona.

Boikgopotso ba ho kenya tshebetsong

Dinoutso tsa motsamaisi

♦ PPT: Diphetho tsa ho ithuta tsa wekshopo.

♦ Buisanang ka ditshwaelo tsa lebokoso la poso le tlaleho e tswang wekshopong e fetileng. Hopotsa bankakarolo ho 'posa' ditshwaelo dife kapa dife tse ntjha le ditlaleho nakong ya wekshopo.

♦ Hopotsa bankakarolo ka *Mosebetsi wa kgutlela le yona sekolong* o tswang qetellong ya Wekshopo ya 9.

♦ Ere bankakarolo ba ye ho **Ketsahalo ya 1** mme ba balle ditaelo tsohle hodimo.

♦ Efa sehlotshwana ka seng leqephe la pampiri ya fliptjhate. Bankakarolo ba phethela ketsahalo dihlotshwaneng tsa bona. Dihlotshwana kamora moo di nehelana ka atikele ya tsona ya koranta.

♦ Kamora dinehelano, akaretsang dikatleho le diphephetso mme le buisane hore di ama jwang ho kenngwa tshebetsong ka phaposing ya borutelo.

Mosebetsi wa kgutlela le yona sekolong ke ona o tswang ho Wekshopo ya 9.

> ❗ **Mosebetsi wa kgutlela le yona sekolong (Wekshopo ya 9)**
>
> 1. Sebedisa *Tataiso ya Diketsahalo: Kotara ya 3* bakeng sa ho rera le ho kenya tshebetsong Kotara ya 3 Dibeke tsa 7–10 tsa Lenaneo la Mmetse.
> 2. Etsa dinoutso tsa dintho tse sebeditseng hantle, tse sa sebetsang hantle le kamoo o ileng wa rarolla diphephetso tse itseng nakong ya ho kenya tshebetsong ha Kotara ya 3 Dibeke tsa 7–10.
> 3. Ngola ditshwaelo ka hara buka eo o e sebedisang ho latela kgatelopele ya moithuti ka mong (buka ya temoho ya moithuti). Sebedisa lenane la ditemoho (lebokoso la leihlo) la **'Lekola hore baithuti ba kgona ho'** nakong ya ketsahalo ka nngwe ya tse tataiswang ke titjhere bakeng sa ho tataisa ditemoho le ditshwaelo tsa hao.
> 4. Tloo le buka ya hao ya ditemoho tsa moithuti le dinoutso tseo o di entseng ha o ntse o ikgopotsa ho ruta ha letsatsi ka leng ho wekshopo e latelang.
> 5. Tloo le khopi ya Kotara ya 3: Rekoto ya Mohlala ya Tekanyetso e Tswellang (ho tswa ho *Tataiso ya Diketsahalo: Kotara ya 3*) wekshopong e latelang.

👥 **Ketsahalo ya 1**

1. Sehlotshwaneng sa lona, hlophisang atikele ya koranta mabapi le ho ruta le ho ithuta mmetse Kereiting ya R. Sebedisang Lenaneo la Mmetse le ho kenngwa tshebetsong ha lona phaposing ya borutelo jwaloka motheo wa atikele ya lona. Kenyeletsang tse latelang:

- why maths in Grade R is important
- your successes and challenges with implementing the Maths Programme in Terms 1, 2 and 3
- strategies you used to resolve challenges.

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2.   Write the newspaper article on flipchart paper.
3.   You will present your article to the other groups and answer any of their questions.

♦ hobaneng ha mmetse o le bohlokwa Kereiting ya R
♦ dikatleho le diphephetso tsa lona ha le ne le kenya tshebetsong Lenaneo la Mmetse Dikotareng tsa 1, 2 le 3
♦ mawa ao le a sebedisitseng ho rarolla diphephetso tseo.

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2. Ngolang atikele ya koranta pampiring ya fliptjhate.
3. Le tla hlahisa atikele ya lona dihlotshwaneng tse ding mme le arabe dipotso dife kapa dife tsa bona.

Session 1: Observation and assessment   1 hour

Observation in Grade R

Observation is an important part of the process of teaching, learning and assessment. In Grade R, the main assessment method is observation. Teachers gather information about learners during whole class activities, small group activities and free play (inside and outside the classroom). During the teacher-guided activities, your interaction with individual learners provides valuable information about their progress. By recording the learners' progress in understanding specific maths concepts in your notebook on an ongoing basis, you build up a complete picture of each learner.

Objective observation

For observation to be effective, teachers need to understand and know what to focus on.

In the next activity, you will practise your observation skills. *This is an individual activity. It is very important that you do not talk to anyone about your observations.*

Facilitator's notes

- PPT: Photo from **Activity 2**.
- Explain that in **Activity 2** participants will practise their observation skills.
- Read through **Activity 2** together and make sure everyone understands that it is an individual activity and not to be discussed with anyone.
- When everyone has finished the activity, give participants a turn to call out what they have written. Write down each observation (exactly as it is called out) and tick the observations that are repeated.
- Discuss the importance of being objective when observing. Make the point that teachers need to record facts (what is seen and heard) and not assumptions or opinions (what they think may be happening and why).
- Read through the list of observations that participants called out and discuss whether each statement is a FACT or an ASSUMPTION. Write 'F' or 'A' next to each statement. For example:
  - The learner has built a construction using rectangle-shaped and triangle-shaped blocks. **F**
  - The learner is not managing to balance the triangle-shaped blocks. **A**
  - The learner is focused on the block-building task. **F**
  - The learner in the background is very happy. **A**
- Participants go through their own lists, marking each statement with an 'F' or an 'A'.
- Wrap up the activity with a discussion about the importance of objective observation.

Karolo ya 1: Temoho le tekanyetso Hora e 1

Temoho Kereiting ya R

Temoho ke karolo ya bohlokwa tsamaisong ya ho ruta, ho ithuta le tekanyetso. Kereiting ya R, mokgwa wa tekanyetso wa sehlooho ke temoho. Matitjhere a bokella tlhahisoleseding e mabapi le baithuti nakong ya diketsahalo tsa tlelase yohle, diketsahalo tsa dihlotshwana le papadi ya bolokolohi (kahare le ka ntle ho phaposi ya borutelo). Nakong ya diketsahalo tse tataiswang ke titjhere, kgokahano ya hao le baithuti ka bomong e fana ka tlhahisoleseding ya bohlokwa mabapi le kgatelopele ya bona. Ka ho rekota kgatelopele ya baithuti ya ho utlwisisa mareo a itseng a mmetse bukeng ya hao ya dinoutso nako le nako, o bopa setshwantsho se felletseng sa moithuti ka mong.

Temoho e sa nkeng lehlakore

Hore temoho e tle e sebetse hantle, matitjhere a lokela ho utlwisisa le ho tseba seo ba lokelang ho tsepamisa maikutlo ho sona.

Ketsahalong e latelang, le tla sebedisa bokgoni ba lona ba ditemoho. *Ena ke ketsahalo ya motho ka bomong. Ho bohlokwa haholo hore o se ke wa bua le mang kapa mang ka tseo o di lemohang.*

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Dinoutso tsa motsamaisi

- ♦ PPT: Setshwantsho se tswang ho **Ketsahalo ya 2**.
- ♦ Hlalosa hore ho **Ketsahalo ya 2** bankakarolo ba tla sebedisa bokgoni ba bona ba ditemoho.
- ♦ Balang **Ketsahalo ya 2** mmoho mme o etse bonnete ba hore bohle ba utlwisisa hore ke ketsahalo ya motho ka mong mme ha e a lokela ho buisanwa le batho ba bang.
- ♦ Ha bohle ba qetile ketsahalo, efa bankakarolo sebaka sa ho bolela seo ba se ngotseng. Ngola temoho ka nngwe (hantle kamoo e buuwang) mme o tshwaye ditemoho tse phetaphetwang.
- ♦ Buisanang ka bohlokwa ba ho se nke lehlakore ha le shebelletse bakeng sa temoho. Hlalosa hore matitjhere a lokela ho rekota dintlha (tse bonweng le tse utlwilweng) e seng tse nahanelwang kapa mehopolo (seo ba nahanang hore se a etsahala le hore ke hobaneng).
- ♦ Bala lenane la ditemoho tseo bankakarolo ba di bitsitseng mme le buisane ka hore ebe polelo ka nngwe ke NTLHA kapa ke KGOPOLOTABA. Ngola 'N' kapa 'K' haufi le polelo ka nngwe. Ho etsa mohlala:
  - Moithuti o ahile moaho a sebedisa diboloko tse sebopeho sa kgutlonne le tse sebopeho sa kgutlotharo. **N**
  - Moithuti ha a kgone ho tsitsisa diboloko tsa sebopeho sa kgutlotharo. **K**
  - Moithuti o tsepamisitse maikuto mosebetsing wa ho aha diboloko. **N**
  - Moithuti ya hlahellang ka morao o thabile haholo. **K**
- ♦ Bankakarolo ba sheba manane a bona, ba ntse ba tshwaya polelo ka nngwe ka 'N' kapa ka 'K'.
- ♦ Phethela ketsahalo ka puisano mabapi le bohlokwa ba temoho e sa nkeng lehlakore.

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 Activity 2

Look at the photograph of two Grade R learners playing with blocks. Write down what you observe when you look at the photograph.

My observations:

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Facilitator's notes
♦   After watching **Video 1**, add participants' observations to the list you recorded in **Activity 2**.
♦   Remind participants of the difference between a FACT and an ASSUMPTION. Write 'F' or 'A' next to each statement.

Video 1

Activity Guide: Term 3, Week 8, Workstation 3: Bingo game (page 150)

1.   Watch the video of a group of learners playing the game, Bingo. Write down your observations of the learners.

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![people icon] **Ketsahalo ya 2**

Sheba setshwantsho sena sa baithuti ba babedi ba Kereiti ya R ba bapalang ka diboloko. Ngola seo o se lemohang ha o shebile setshwantsho sena.

Ditemoho tsa ka:

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Dinoutso tsa motsamaisi

♦ Kamora ho shebella **Video ya 1**, kenya ditemoho tsa bankakarolo lenaneng leo o le rekotileng ho **Ketsahalo ya 2**.
♦ Hopotsa bankakarolo ka diphapang pakeng tsa NTLHA le KGOPOLOTABA. Ngola 'N' kapa 'K' pela polelo ka nngwe.

![video camera icon] **Video ya 1**

Tataiso ya Diketsahalo: Kotara ya 3, Beke ya 8, Seteishene sa tshebetso sa 3: Papadi ya Bingo (leqephe la 151)

1. Shebellang video ya sehlopha sa baithuti ba bapalang papadi, Bingo. Ngola ditemoho tsa hao ka baithuti bao.

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2. Which of your observations are facts and which are assumptions? Go through your list and write an 'F' or 'A' next to each statement.

When we write what we **think** a learner can or cannot do, or what a learner is feeling, we are making assumptions. The only way to know what a learner is thinking or feeling, is to ask them to tell you.

Objective observation involves:

♦ describing only what you see and hear

♦ recording what the learner is doing and saying in as much detail as possible

♦ not judging – avoid giving your own ideas and opinions

♦ observing each learner regularly, in different activities and at different times of the day.

Activity 3

1. Think about your observations of *one* of your learners in Term 3. What mathematical knowledge and skills is this learner developing?

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_____
_____
_____

2. Refer to (3) to (5) of the *Take back to school task* from Workshop 9 (page 10).
   ♦ Discuss your use of the **'Check that learners are able to'** observation list (eye box) during teacher-guided activities.
   ♦ Show members of your group your learner observation book.
   ♦ Take turns to discuss a learner's progress. Which mathematical skills did you observe? How do you know? (What did the learner do and say?)
   ♦ Explain how you captured this information using the Term 3: Exemplar Record of Continuous Assessments.
   ♦ Did you manage to implement a differentiated approach to teaching and learning in your class. If so, how?

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2. Ke dife ho ditemoho tsa hao tseo e leng dintlha mme ke dife tseo e leng dikgopolotaba? Sheba lenane la hao lohle mme o ngole 'N' kapa 'K' pela polelo ka nngwe.

Ha re ngola seo re **nahanang** hore moithuti a ka se etsa kapa a keke a se etsa, kapa kamoo moithuti a ikutlwang ka teng, re etsa dikgopolotaba. Tsela e le nngwe feela ya ho tseba seo moithuti a se nahanang kapa maikutlo a hae, ke ho mo kopa hore a o bolelle.

Temoho e sa nkeng lehlakore e kenyeletsa:

♦   ho hlalosa feela seo o se bonang le seo o se utlwang

♦   ho rekota seo moithuti a se etsang le ho se bua ka dintlha tse ngata kamoo o ka kgonang

♦   ho se ahlole – qoba ho fana ka mehopolo ya hao le maikutlo a hao

♦   ho dula o shebella moithuti ka mong nako le nako, diketsahalong tse fapaneng le ka dinako tse fapaneng tsa letsatsi.

👥 Ketsahalo ya 3

1. Nahana ka ditemoho tsa hao tsa e *mong* wa baithuti ba hao ho Kotara ya 3. Moithuti eo o fumana tsebo le bokgoni bofe ba mmetse?

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2. Shebang ho (3) ho isa ho (5) tsa *Mosebetsi wa kgutlela le yona sekolong* ho tswa ho Wekshopo ya 9 (leqephe la 11).
    ♦   Buisanang ka tshebediso ya lona ya lenane la ditemoho la **'Lekola hore baithuti ba kgona ho'** (lebokoso la leihlo) nakong ya diketsahalo tse tataiswang ke titjhere.
    ♦   Bontsha ditho tsa sehlopha sa hao buka ya hao ya ditemoho tsa baithuti.
    ♦   Fanang sebaka sa ho buisana ka kgatelopele ya moithuti. Ke bokgoni bofe ba mmetse boo o bo lemohileng? O tseba jwang? (Moithuti o ile a etsa eng le hore o itse eng?)
    ♦   Hlalosa kamoo o ileng wa bokella tlhahisoleseding ena o sebedisa Kotara ya 3: Rekoto ya Mohlala ya Tekanyetso e Tswellang.
    ♦   Na o ile wa kgona ho kenya tshebetsong mokgwa o bontshang phapang ho ruteng le ho ithuteng ka tlelaseng ya hao. Ha ho le jwalo, jwang?

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Assessment in Grade R

Assessment in Grade R is used to make decisions about the best way to support each learner's development. During teacher-guided activities, whole class activities as well as other activities in the daily programme, you will have opportunities to observe learners and gain insight into their progress. This information should guide your planning for further teaching and learning.

The continuous assessment tables in CAPS and in the Maths Programme's *Activity Guides* are based on the content that has been taught each term and can be used to summarise each learner's progress during the term.

Note that skills and behaviours should be observed on several occasions so that patterns of development over time can be recorded.

Facilitator's notes
♦ Wrap up this session with a discussion about the importance of continuous observation and the regular recording of learner information as a basis for assessment.

Tekanyetso Kereiting ya R

Tekanyetso Kereiting ya R e sebediswa ho etsa diqeto mabapi le tsela e lokileng ka ho fetisisa ya ho tshehetsa ntshetsopele ya moithuti ka mong. Ka nako ya diketsahalo tse tataiswang ke titjhere, diketsahalo tsa tlelase yohle esitana le diketsahalo tse ding le ho lenaneo la letsatsi le letsatsi, o tla ba le menyetla ya ho shebella baithuti mme o fumane lesedi mabapi le kgatelopele ya bona. Tlhahisoleseding ena e lokela ho tataisa moralo wa hao bakeng sa ho ruta le ho ithuta ho tswela pele.

Ditafole tsa tekanyetso e tswellang tse ho SLTK le ho *Ditataiso tsa Diketsahalo* tsa Lenaneo la Mmetse di theilwe ho dikahare tse rutilweng kotareng ka nngwe mme di ka sebediswa ho akaretsa kgatelopele ya moithuti ka mong kotareng.

Lemoha hore bokgoni le boitshwaro di lokela ho shebellwa diketsahalong tse ngatanyana ele hore ho tle ho rekotwe dipaterone tsa ntshetsopele nakong e itseng.

Dinoutso tsa motsamaisi
♦ Phethela karolo ena ka puisano e mabapi le bohlokwa ba temoho e tswellang le ho rekotwa kgafetsa ha tlhahisoleseding ya moithuti jwaloka motheo wa tekanyetso.

Session 2: The guiding principles of teaching maths in Grade R
1 hour

Throughout the Maths Programme training, we have referred to the guiding principles of teaching maths in Grade R and how these are incorporated into daily classroom practice. Some of the principles are easier to identify and implement than others. As teachers we need to be constantly aware of how, where and when we are using these principles in our classrooms.

Facilitator's notes

♦ PPT: Figure 5, page 14, *Concept Guide*.

♦ Discuss the importance of being conscious of the guiding principles of teaching maths in Grade R and how these inform our approach to teaching. It is only when we are aware of these principles and reflect on how we incorporate them in our teaching that they become a part of how we approach our classroom practice.

♦ Divide the participants into eight small groups. Assign one guiding principle to each group. Give the corresponding picture of this principle (Appendix B) to each group.

♦ Participants discuss their principle in their small groups. They then present their understanding and observations of how their principle plays out in the classroom.

♦ The participants paste the A5 picture on flipchart paper and write their comments underneath it to share with the whole group.

Activity 4

The facilitator will assign one of the guiding principles of teaching maths in Grade R to your group. You will receive a picture of this principle.

1. In your group, discuss the following questions:
   ♦ What is your understanding of this principle 'in action'?
   ♦ Does the Maths Programme make it possible to incorporate this principle in your daily teaching?
   ♦ Now that you have implemented the Maths Programme for three terms, what are your reflections on this principle?
   ♦ How would your teaching be affected if this principle was absent from your classroom approach?

2. Paste the picture onto a sheet of flipchart paper. Write your comments below the picture so that you can share these with the whole group.

Karolo ya 2: Dintlhatheo tse tataisang ho ruta mmetse Kereiting ya R

Nakong yohle ya thupello ya Lenaneo la Mmetse, re ne re ntse re sheba ho dintlhatheo tse tataisang ho ruta mmetse Kereiting ya R le kamoo di kenyeleditsweng ho diketso tsa letsatsi le letsatsi tsa phaposing ya borutelo. Tse ding tsa dintlhatheo di bonolo ho hlwauwa le ho kenngwa tshebetsong ho feta tse ding. Jwalo ka matitjhere re hloka ho dula re lemoha hore re sebedisa dintlhatheo tsena jwang, kae le neng diphaposing tsa rona tsa borutelo.

Dinoutso tsa motsamaisi
♦ PPT: Setshwantsho sa 5, leqephe la 15, *Tataiso ya Mareo*.
♦ Buisanang ka bohlokwa ba ho dula re hopola dintlhatheo tse tataisang ho ruta mmetse Kereiting ya R le kamoo di tataisang mokgwa oo re rutang ka ona. Ke feela ha re lemoha dintlhatheo tsena mme re nahanisisa kamoo re ka di kenyeletsang ho ruteng ha rona moo di ka bang karolo ya kamoo re sebetsang ka teng ka phaposing ya borutelo.
♦ Arola bankakarolo ka dihlotshwana tse robedi. Fana ka ntlhatheo ya tataiso e le nngwe sehlotshwaneng ka seng. Fana ka setshwantsho se tsamaelanang le ntlhatheo ena (Sehlomathiso B) ho sehlotshwana ka seng.
♦ Bankakarolo ba buisana ka dintlhatheo tsa bona dihlotshwaneng tsa bona. Kamora moo ba bua ka kutlwisiso le ditemoho tsa kamoo dintlhatheo tsa bona di sebetsang ka phaposing ya borutelo.
♦ Bankakarolo ba manamisa setshwantsho sa A5 hodima pampiri ya fliptjhate mme ba ngola ditshwaelo tsa bona ka tlasa sona ho abelana le sehlopha sohle.

 Ketsahalo ya 4

Motsamaisi o tla abela sehlotshwana sa lona e nngwe ya dintlhatheo tse tataisang ho ruta mmetse Kereiting ya R. Le tla fumana setshwantsho sa ntlhatheo ena.

1. Sehlotshwaneng sa lona, buisanang ka dipotso tse latelang:
   ♦ Le utlwisisa eng ka ntlhatheo ena ha 'e le tshebetsong'?
   ♦ Na Lenaneo la Mmetse le etsa hore ho kgonahale ho kenyeletsa ntlhatheo ena ho ruteng ha hao ka letsatsi le letsatsi?
   ♦ Jwale kaha o se o sebedisitse Lenaneo la Mmetse ka dikotara tse tharo, mehopolo ya hao ke efe mabapi le ntlhatheo ena?
   ♦ Ho ruta ha hao ho ka ameha jwang haeba ntlhatheo ena e ka ba siyo ho mokgwa oo o o sebedisang ka phaposing ya hao ya borutelo?

2. Manamisa setshwantsho leqepheng la pampiri ya fliptjhate. Ngolang ditshwaelo ka tlasa setshwantsho seo ele hore le tle le abelane ka tsona le sehlopha sohle.

1. **The context principle.** Learning takes place in meaningful and appropriate situations.

2. **The activity principle.** Learners should be directly involved in the learning–teaching process.

3. **The play principle.** Children learn best in free-play and guided-play activities.

4. **The level principle.** Learners pass through various levels of understanding and development.

5. **The interaction principle.** Learning takes place when there is communication and sharing of ideas.

6. **The guidance principle.** Learning takes place when teachers guide learners in developing new knowledge.

7. **The inclusivity principle.** Learning takes place in an environment where everyone is welcomed, included, treated fairly, respected and can participate.

8. **The practice principle.** Learning is consolidated through practising new skills and knowledge.

THE EIGHT PRINCIPLES OF GRADE R MATHS

8

1. **Ntlhatheo ya tikoloho.** Ho ithuta ho etsahala maemong a nang le moelelo le a loketseng.

2. **Ntlhatheo ya diketsahalo.** Baithuti ba lokela ho nka seabo ka ho otloloha mokgwatshebetsong wa ho ruta le ho ithuta.

3. **Ntlhatheo ya ho bapala.** Bana ba ithuta hantle ho feta diketsahalong tsa ho bapala ka bolokolohi le tsa ho bapala ho tataiswang.

4. **Ntlhatheo ya mekgahlelo.** Baithuti ba feta mekgahlelo e fapaneng ya kutlwisiso le ntshetsopele.

5. **Ntlhatheo ya kgokahano.** Ho ithuta ho etsahala ha ho ena le dipuisano le ho abelana ka mehopolo.

6. **Ntlhatheo ya tataiso.** Ho ithuta ho etsahala ha matitjhere a tataisa baithuti ho ntshetsa pele tsebo e ntjha.

7. **Ntlhatheo ya kenyeletso.** Ho ithuta ho etsahala tikolohong eo bohle ba amohelwang, ba kenyeletswang, ba tshwarwang ntle le leeme, ba hlontjhwang mme ba ka ba le seabo.

8. **Ntlhatheo ya boikwetliso.** Ho ithuta ho kgobokanngwa ka ho ikwetlisetsa bokgoni le tsebo tse ntjha.

8

DINTLHATHEO TSE ROBEDI TSA *GRADE R MATHS*

Session 3: Introducing numbers 10 and 0   1 hour

Introducing number 10

Facilitator's notes
♦   PPT: Summarise information below.
♦   Discuss the base 10 number system that we use. Emphasise that in Grade R learners only need to work with and understand the numbers 0–10. (**Activity 5** is for enrichment. It is not intended for use in Grade R classrooms.)
♦   When using expanding number cards (flashcards) like the ones in Appendix C to make two-digit and three-digit numbers, always use the units (ones), tens or hundreds. Never use only the units to represent a two-digit or three-digit number. For example: for 11 use 10 and 1, not 1 and 1.
♦   Explain that in Grade 1 learners begin to work with place value. They need to understand the value of each digit in the number. It is important that Grade R learners understand that 10 is a number and not just 1 + 0. Learners should make groups of ten. They should also use sticks to make bundles to represent ten and match the bundle with the 'ten' number word card.
♦   **Emphasise that teachers should not introduce place value in Grade R and that Activity 5 is an enrichment activity for workshop participants only**.

The ten numerals used in our place value number system are 0, 1, 2, 3, 4, 5, 6, 7, 8 and 9. These numerals are used to represent units (ones) and to represent an infinite number of values, for example:

♦ tens
♦ hundreds
♦ thousands, and so on.

Learners in the Foundation Phase need to understand that the same numeral can be used to represent different values, depending on the position of the numeral in a number. For example, in each of the numbers below '3' has a different value:

♦ in <u>3</u>, its value is 'three'
♦ in <u>3</u>1, its value is 'thirty'
♦ in <u>3</u>49, its value is 'three hundred'.

Place value is a difficult concept for learners to understand. Researchers have found that many learners up to the age of eight think that the '1' in 15 means 'one'.

Karolo ya 3: Ho tsebisa dinomoro 10 le 0   Hora e 1

Ho tsebisa nomoro ya 10

Dinoutso tsa motsamaisi
♦ PPT: Akaretsa tlhahisoleseding e ka tlase.
♦ Hlalosa mokgwa wa desimale oo re o sebedisang. Hatella hore baithuti ba Kereiti ya R ba hloka feela ho sebetsa ka dinomoro tsa 0–10 le ho di utlwisisa. (**Ketsahalo ya 5** ke bakeng sa matlafatso. Ha e a etsetswa ho sebediswa ka diphaposing tsa borutelo tsa Kereiti ya R.)
♦ Ha o sebedisa dikarete tsa dinomoro tse atoloswang (difleshekarete) tse kang tse ho Sehlomathiso C bakeng sa ho etsa dinomoro tsa didijiti tse pedi le tsa didijiti tse tharo, kamehla sebedisa metso (bonngwe), mashome kapa makgolo. Hohang o se sebedise feela metso ho emela nomoro ya didijiti tse pedi kapa ya didijiti tse tharo. Ho etsa mohlala: bakeng sa 11 sebedisa 10 le 1, eseng 1 le 1.
♦ Hlalosa hore Kereiting ya R baithuti ba qala ho sebetsa ka kemelapalo. Ba lokela ho utlwisisa boleng ba dijiti ka nngwe nomorong. Ho bohlokwa hore baithuti ba Kereiti ya R ba utlwisise hore 10 ke nomoro e seng feela 1 + 0. Baithuti ba lokela ho etsa dihlotshwana tsa leshome. Hape ba lokela ho sebedisa dithupa ho etsa dingatana tse emetseng leshome mme ba nyalanye ngatana le karete ya lentswe la nomoro 'leshome'.
♦ **Hatella hore matitjhere a se ke a tsebisa kemelapalo Kereiting ya R le hore Ketsahalo ya 5 ke ketsahalo ya ho matlafatsa bakeng sa bankakarolo ba wekshopo feela.**

Matshwao a dinomoro a leshome a sebedisitsweng sistiming ya rona ya dinomoro ya kemelapalo ke 0, 1, 2, 3, 4, 5, 6, 7, 8 le 9. Matshwao ana a sebediswa ho emela metso (bonngwe) le ho emela lenane le sa feleng la boleng, ho etsa mohlala:

♦ mashome

♦ makgolo

♦ dikete, jwalojwalo.

Baithuti ba Mophatong wa Motheo ba lokela ho utlwisisa hore letshwao la nomoro e le nngwe le ka sebediswa ho emela boleng bo fapaneng, ho ya ka boemo ba letshwao leo nomorong e felletseng. Ho etsa mohlala, nomorong ka nngwe e ka tlase, '3' e na le boleng bo fapaneng:

♦ ho <u>3</u>, boleng ba yona ke 'tharo'

♦ ho <u>3</u>1, boleng ba yona ke 'mashome a mararo'

♦ ho <u>3</u>49, boleng ba yona ke 'makgolo a mararo'.

Kemelapalo ke lereo le thata bakeng sa baithuti ho le utlwisisa. Bafuputsi ba fumane hore baithuti ba bangata ho fihla dilemong tse robedi ba nahana hore '1' ho 15 e bolela 'nngwe'.

In Grade 1 learners explore the base ten number system, working with numbers from 11 onwards. They represent these numbers with groups of tens and single ones (units). When they work with numbers 11–19, they begin to understand that in a number like 14, the numeral 1:

♦ does not mean 1
♦ represents 10 ones
♦ therefore, is also 1 ten (1 group of ten).

They also understand that the numeral 4 in 14, represents 4.

DID YOU KNOW?
In the Foundation Phase, learners talk about 'tens' and 'units' as 'groups of ten' and single 'ones'. They represent two-digit and three-digit numbers using grouping models and expanding number cards.

We do not introduce place value in Grade R. The focus in this grade is on understanding the value of the numbers 0–10 and on building a strong number concept within this range. If learners have a good concept of the numbers to 10, this knowledge can be extended in Grade 1 and other grades.

Activity 5

IMPORTANT!
This activity is for the development of your own knowledge and enrichment. It is not appropriate for Grade R learners. Do NOT introduce this activity in Grade R.

Use the counters, sticks and number cards provided to represent the following numbers:

14 31 22 43

1. Represent each number using counters: make groups of ten and single ones.
2. Represent each number using sticks and string: make bundles of ten and single ones.
3. Label the bundles with the correct number cards.
4. Talk about how many groups of ten and how many ones each number has.
5. Discuss the value of each numeral.

Kereiting ya 1 baithuti ba sibolla mokgwa wa desimale, ho sebetsa ka dinomoro ho tloha ho 11 ho ya pele. Ba emela dinomoro tsena ka dihlopha tsa mashome le tsa bonngwe (metso). Ha ba sebetsa ka dinomoro 11–19, ba qala ho utlwisisa hore nomorong e kang 14, letshwao la nomoro la 1:

♦ ha le bolele 1
♦ le bolela bonngwe ba 10
♦ kahoo, ke leshome le 1 (sehlopha se 1 sa leshome).

Hape ba utlwisisa hore letshwao la 4 ho 14, le emetse 4.

Ha re tsebise kemelapalo Kereiting ya R. Tsepamo kereiting ena e ho kutlwisiso ya boleng ba dinomoro 0–10 le ho aha moelelo o matla wa dinomoro letotong lena. Haeba baithuti ba ena le moelelo o motle wa dinomoro ho fihlela ho 10, tsebo ena e ka atoloswa Kereiting ya 1 le dikereiting tse ding.

Ketsahalo ya 5

Sebedisa dibadi, dithupa le dikarete tsa dinomoro tse fanweng bakeng sa ho emela dinomoro tse latelang:

14 31 22 43

1. Emela nomoro ka nngwe o sebedisa dibadi: etsa dihlopha tsa leshome le tsa bonngwe.
2. Emela nomoro ka nngwe o sebedisa dithupa le kgwele: etsa dingatana tsa leshome le tsa bonngwe.
3. Leibola dingatana ka dikarete tse nepahetseng tsa dinomoro.
4. Buang ka hore nomoro ka nngwe e na le dihlopha tse kae tsa leshome le bonngwe ba bakae.
5. Buisanang ka boleng ba letshwao la nomoro ka leng.

6. Which apparatus do you think was more appropriate for representing the concepts of 'groups of ten' ('tens') and 'ones'? Explain you answer.

_____
_____
_____
_____

7. What do you notice about the value of the numerals in the numbers you represented with the number cards?

_____
_____
_____
_____

Grade R learners **do not need to understand place value**. They do need to:
♦   understand the value (the 'how muchness') of numbers 0–10
♦   understand the different combinations of numbers up to 10
♦   understand that even though 10 is made up of the numerals 1 and 0, it is NOT 1 + 0 and it has its own value ('how muchness')
♦   understand and be able to represent the different values of 1, 0 and 10.

Facilitator's notes
♦ After **Activity 6**, take feedback from the groups on ideas for teaching the number 10. These could include: - number frieze and story - dot card activities - number washing line - comparing groups of objects - structure beads - number track. ♦ Discuss whether these activities would be suitable for whole class, teacher-guided or small group activities. ♦ Emphasise that when applying the number symbol 10 to a group of objects, learners should use the number symbol card '10' and not number symbol cards '1' and '0'.

Activity 6

1. In your group, discuss ideas for teaching the number 10 in your Grade R classroom. Include the use of different representations.

_____
_____
_____

6. Ke sesebediswa sefe seo o nahanang hore se ne se lokile ho feta bakeng sa ho emela dikgopolo tsa 'dihlopha tsa leshome' (mashome) le 'bonngwe'? Hlalosa karabo ya hao.

_____
_____
_____
_____

7. O lemoha eng mabapi le boleng ba matshwao a dinomoro ho dinomoro tseo o di emetseng ka dikarete tsa dinomoro?

_____
_____
_____
_____

Baithuti ba Kereiti ya R **ha ba hloke ho utlwisisa kemelapalo**. Ha ba hloke ho:

♦ utlwisisa boleng ('bokaalo') ba dinomoro 0–10
♦ utlwisisa metswako e fapaneng ya dinomoro ho isa ho 10
♦ utlwisisa hore esita le ha 10 e etswa ke matshwao a dinomoro 1 le 0, ha SE 1 + 0 mme e na le boleng ba yona ('bokaalo')
♦ utlwisisa le ho kgona ho emela boleng bo fapaneng ba 1, 0 le 10.

Dinoutso tsa motsamaisi
♦ Kamora **Ketsahalo ya 6**, nka ditlaleho dihlotshwaneng mabapi le mehopolo bakeng sa ho ruta nomoro ena, 10. Tsona di ka kenyeletsa: - frizi ya nomoro le pale - diketsahalo tsa dikarete tsa matheba - mola o anehang dinomoro - ho bapisa dihlopha le dintho - difaha tsa dibopeho - tsela ya dinomoro. ♦ Buisanang ka hore ebe diketsahalo tsena di ka lokela tlelase yohle, diketsahalo tse tataiswang ke titjhere kapa tsa dihlotshwana na. ♦ Hatella hore ha le sebedisa letshwao la nomoro 10 bakeng sa sehlopha sa dintho, baithuti ba lokela ho sebedisa karete ya letshwao la nomoro '10' e seng dikarete tsa matshwao a dinomoro '1' le '0'.

Ketsahalo ya 6

1. Sehlotshwaneng sa lona, buisanang ka mehopolo bakeng sa ho ruta nomoro ya 10 ka phaposing ya borutelo ya Kereiti ya R. Kenyeletsang tshebediso ya dikemelo tse fapaneng.

_____
_____
_____

_____

_____

_____

_____

_____

2. Present your ideas to the whole group.

Introducing number 0

In Grade R, learners need to understand that zero is a number and the number symbol for it is '0'.

Young children find the concept of 'emptiness' difficult to understand. When learners are faced with an empty plate, container, box or bag they will often use words such as 'no more', 'all gone', 'nothing left', 'none' or 'empty' to describe the situation. Teachers should accept these correct descriptions, but should also introduce the word 'zero'. The word 'zero' should be used consistently, even when counting down or backwards, e.g., when counting backwards from four: 'four, three, two, one, zero'. The symbol '0' should be placed on the number washing line. The 0 number cards should be used to represent that an object (such as a plate, tub, lid, box) is empty.

Video 2

Activity Guide: Term 4, Week 3, Day 1 #4 and #5, Day 2 #2 and #4, Day 3 #3, Day 4 #4, Day 5 #4 (pages 56–63)

1. Watch the video of a teacher introducing and consolidating the concept of zero.
    ♦ What do you see happening?
    ♦ How was the concept of zero introduced?
    ♦ What did the learners do and say?
    ♦ What was the role of the teacher?
    ♦ What was the benefit of using a variety of activities to teach the concept?

2. Write down your observations.

_____

_____

_____

_____

_____
_____
_____
_____
_____

2.   Hlahisang mehopolo ya lona sehlopheng sohle.

Ho tsebisa nomoro ya 0

Kereiting ya R, baithuti ba hloka ho utlwisisa hore ziro ke nomoro mme letshwao la nomoro bakeng sa yona ke '0'.

Bana ba banyenyane ba fumana lereo la 'lephaka' le le thata ho ka utlwisiswa. Ha baithuti ba shebane le sejana, lebokoso kapa mokotla o sa tshelang letho, hangata ba tla sebedisa mantswe a kang 'fedile', 'di ile', 'ha ho letho', 'ha eyo' kapa 'lephaka' ho hlalosa boemo boo. Matitjhere a lokela ho amohela ditlhaloso tsena tse nepahetseng, empa hape ba lokela ho tsebisa lentswe la 'ziro'. Lentswe lena 'ziro' le lokela ho sebediswa nako le nako, esitana le ha ho balwa ho ya pele kapa ho kgutlela morao, mohl., ha ho balwa ho kgutlelwa morao ho tloha ho nne: 'nne, tharo, pedi, nngwe, ziro'. Letshwao la '0' le lokela ho bewa moleng wa ho aneha dinomoro. Dinomoro tsa dikarete tsa 0 di lokela ho emela hore ntho e itseng (jwaloka sejana, setshelo, sekwahelo, lebokoso) ha e a tshela letho/e lephaka.

Video ya 2

1.   Shebellang video ya titjhere ya tsebisang le ho hokahanya lereo la ziro.
   ♦ O bona ho etsahala eng?
   ♦ Lereo la ziro le tsebisitswe jwang?
   ♦ Baithuti ba ile ba etsa eng mme ba reng?
   ♦ Seabo sa titjhere e ne e le sefe?
   ♦ Molemo wa ho sebedisa diketsahalo tse fapaneng bakeng sa ho ruta lereo ke ofe?

2.   Ngola ditemoho tsa hao.

_____

_____

_____

_____

Facilitator's notes

♦ Discuss the kinds of classroom activities that were used to help learners understand the value of '0', for example:
  - adding '0' to the jumping number track and asking what number the learner started on ('no jumps yet')
  - counting groups of objects that include 0 objects
  - matching empty groups of objects to the '0' number card
  - including '0' in the counting sequence (on the number line)
  - showing empty hands to represent '0'.

Dinoutso tsa motsamaisi

♦ Buisanang ka mefuta ya diketsahalo tsa ka phaposing ya borutelo tse neng di sebediswa ho thusa baithuti hore ba utlwisise boleng ba '0', ho etsa mohlala:

- ho kenya '0' tseleng ya ho tlola dinomoro le ho botsa hore moithuti o qadile nomorong efe ('ha ho eso tlolwe')

- ho bala dihlopha tsa dintho tse kenyeletsang dintho tse 0

- ho nyalanya dihlopha tsa dintho tse sa tshelang letho/lephaka ho karete ya nomoro ya '0'

- ho kenyeletsa '0' ho tatelano ya ho bala (molapalong)

- ho bontsha matsoho a se nang letho ho emela '0'.

Session 4: Planning for teaching 1½ hours

This workshop session prepares participants for implementing Term 4 Weeks 1–3. By this stage of the year, the teacher will have noticed distinct differences between learners' levels of progress. Term 4 builds on the content of Terms 1, 2 and 3. Some learners will be ready for this, while others will need support and more consolidation to progress. It is important to plan and prepare for this difference in learner competence to ensure that all the content and skills of Grade R Mathematics are covered, and learners are well prepared for Grade 1.

<div style="background:black;color:white">

Facilitator's notes
</div>

♦   Move between the small groups as participants discuss the planning and preparation for teaching Term 4 Weeks 1–3 in **Activity 7**. Assist them by making suggestions on overcoming challenges.
♦   Each small group plans the three weeks and completes the templates in Appendix A.
♦   The small groups present their responses to the questions in **Activity 7**. The whole group discusses differentiated teaching and learning.

Activity 7

1. In your group, complete the planning templates for Term 4 Weeks 1–3 (Appendix A).
2. Discuss the following questions:
    ♦ How is the week structured?
    ♦ How does the content build on previous lessons?
    ♦ Do the whole class activities successfully create opportunities for the discussion and exploration of new knowledge?
    ♦ How does the teacher-guided activity provide opportunities for the teacher to assess and support the learners?
    ♦ Do the independent small group activities allow for adequate practice of new knowledge and skills?
    ♦ How could you prepare additional activities to support learners who have not yet mastered a particular skill?
    ♦ Suggest some ways to extend learning opportunities for advanced learners.
    ♦ How could you work with a colleague to prepare for each week?

Karolo ya 4: Ho etsa moralo bakeng sa ho ruta

Dihora tse 1½

Karolo ena ya wekshopo e lokisetsa bankakarolo bakeng sa ho kenya tshebetsong Kotara ya 4 Dibeke tsa 1–3. Mokgahlelong ona wa selemo, titjhere o tla be a elelletswe diphapang tse ikgethileng tse pakeng tsa maemo a baithuti a kgatelopele. Kotara ya 4 e ahella ho dikahare tsa Kotara ya 1, 2 le 3. Baithuti ba bang ba tla be ba loketse sena, ha ba bang ba tla hloka tshehetso le kgobokanyo e ngata bakeng sa ho hatela pele. Ho bohlokwa ho rera le ho lokisetsa phapang ena ya boitsebelo ba baithuti ho netefatsa hore dikahare tsohle le bokgoni bohle ba Mmetse wa Kereiti ya R di entswe, le hore baithuti ba se ba loketse Keteiti ya 1.

Dinoutso tsa motsamaisi

♦ Tsamaya pakeng tsa dihlotshwana ha bankakarolo ba ntse ba buisana ka morero le boitokisetso bakeng sa ho ruta Kotara ya 4 Dibeke tsa 1–3 ho **Ketsahalo ya 7**. Thusa ka ho etsa ditlhahiso mabapi le ho hlola diphephetso.

♦ Sehlotshwana ka seng se rerela dibeke tse tharo mme se tlatsa dithempleiti tse ho Sehlomathiso A.

♦ Dihlotshwana di nehelana ka dikarabo tsa tsona ho dipotso tsa **Ketsahalo ya 7**. Sehlopha sohle se buisana ka ho ruta le ho ithuta ho fapaneng.

Ketsahalo ya 7

1. Sehlotshwaneng sa lona, tlatsang dithempleiti tsa moralo bakeng sa Kotara ya 4 Dibeke tsa 1–3 (Sehlomathiso A).
2. Buisanang ka dipotso tse latelang:
   ♦ Beke e bopilwe jwang?
   ♦ Dikahare di ahella jwang hodima dithuto tse fetileng?
   ♦ Na diketsahalo tsa tlelase yohle di bopa menyetla ka katleho bakeng sa dipuisano le tshibollo ya tsebo e ntjha?
   ♦ Ketsahalo e tataiswang ke titjhere e fana jwang ka menyetla bakeng sa titjhere ho lekanyetsa le ho tshehetsa baithuti?
   ♦ Na diketsahalo tsa dihlotshwana tse ikemetseng di dumella tshebediso e lekaneng ya tsebo e ntjha le bokgoni bo botjha?
   ♦ O ka lokisetsa jwang diketsahalo tsa tlatsetso ho tshehetsa baithuti ba esong ho utlwisisi hantle bokgoni bo itseng?
   ♦ Etsa ditlhahiso tsa ditsela tse ding tsa ho atolosa menyetla ya ho ithuta bakeng sa baithuti ba seng ba hatetse pele.
   ♦ O ka sebedisana jwang le mosebetsimmoho ho lokisetsa beke ka nngwe?

Closing activities

Facilitator's notes

- ♦ **Workshop reflection:** Ask participants to take a few minutes to reflect on the day and to page through their *Participant's Workbook*. Ask them to jot down any questions or comments to share with the whole group.

  Ask individual participants to volunteer responses to the following:

  - I learnt …
  - I did not like …
  - I enjoyed …
  - I now understand …
  - I'm still not clear about …
  - I would like more information on …
- ♦ Encourage participants to add any comments and feedback not yet shared to the post box.
- ♦ **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 8

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 your thoughts.

- ♦ I learnt _____
  _____
- ♦ I did not like _____
  _____
- ♦ I enjoyed _____
  _____
- ♦ I now understand _____
  _____
- ♦ I'm still not clear about _____
  _____
- ♦ I would like more information on _____
  _____

Share your reflections with the whole group.

Dinoutso tsa motsamaisi

♦ **Boikgopotso ba wekshopo:** Kopa bankakarolo ho nka metsotso e mmalwa ba hopola letsatsi leo le ho phetla *Buka ya Mosebetsi ya Monkakarolo* tsa bona. Ba kope hore ba ngole fatshe dipotso kapa ditshwaelo dife kapa dife tseo ba tlang ho abelana le tsona le sehlopha sohle.

Kopa bankakarolo ka bonngwe ho ithaopa ho arabela tse latelang:

- Ke ithutile …
- Ha ke a rata …
- Ke natefetswe ke …
- Jwale ke utlwisisa …
- Ke ntse ke eso hlakelwe ke …
- Nka thabela tlhahisoleseding e nngwe mabapi le …

♦ Kgothaletsa bankakarolo ho kenya ditshwaelo le tlaleho tse esong ho abelanwe ho lebokoso la poso.

♦ **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 8

Boikgopotso ba wekshopo: Nkang metsotso e mmalwa ho ikgopotsa ka letsatsi leo. Phetlang buka ya lona ya *Buka ya Mosebetsi ya Monkakarolo* ho ikgopotsa ka tse seng di rutilwe. Ngola mehopolo ya hao fatshe.

♦ Ke ithutile _____

_____

♦ Ha ke a rata _____

_____

♦ Ke natefetswe ke _____

_____

♦ Jwale ke se ke utlwisisa _____

_____

♦ Ke ntse ke eso hlakelwe ke _____

_____

♦ Nka thabela tlhahisoleseding e nngwe mabapi le _____

_____

Abelana ka dikgopolo tsa hao le sehlopha sohle.

❗ Take back to school task

1. Use *Activity Guide: Term 4* to plan and implement Term 4 Weeks 1–3 of the Maths Programme.
2. Write comments in the book that you use to keep track of each learner's progress (learner observation book). Use the **'Check that learners are able to'** observation list (eye box) during each of the teacher-guided activities to guide your observations and comments.
3. Make notes of what worked well, what did not work well and how you resolved any challenges during your implementation of Term 4 Weeks 1–3.
4. Bring your learner observation book and the notes you made when reflecting on each day's teaching to the next workshop.

Evaluation

Complete the Evaluation Form.

❗ Mosebetsi wa kgutlela le yona sekolong

1. Sebedisa *Tataiso ya Diketsahalo: Kotara ya 4* ho rera le ho kenya tshebetsong Kotara ya 4 Dibeke tsa 1–3 tsa Lenaneo la Mmetse.

2. Ngola ditshwaelo ka bukeng eo o e sebedisang ho boloka rekoto ya kgatelopele ya moithuti ka mong (buka ya ditemoho tsa baithuti). Sebedisa lenane la ditemoho la **'Lekola hore baithuti ba kgona ho'** (lebokoso la mahlo) nakong ya ketsahalo ka nngwe ya tse tataiswang ke titjhere ho tataisa ditemoho le ditshwaelo tsa hao.

3. Etsa dinoutso tsa dintho tse sebeditseng hantle, tse sa sebetsang hantle le kamoo o rarollotseng diphephetso dife kapa dife nakong ya ho kenya tshebetsong ha Kotara ya 4 Dibeke tsa 1–3.

4. Tloo le buka ya hao ya ditemoho tsa moithuti le dinoutso tseo o di entseng ha le ntse le ikgopotsa ho ruta ha letsatsi ka leng ho wekshopo e latelang.

Tlhahlobo

Tlatsa Foromo ya Tlhahlobo.

APPENDIX A: TERM 4 WEEKLY PLANNING TEMPLATE

Term 4: Activity Plan: Week _____

CONTENT AREA:			
TOPIC: INTRODUCE NEW KNOWLEDGE: PRACTISE:			
Whole class activities	**Teacher-guided activity**	**Workstation activities (independent small group activities)**	
Day 1		**Activity 1**	
Day 2		**Activity 2**	
Day 3		**Activity 3**	
Day 4		**Activity 4**	
Day 5			

SEHLOMATHISO A: KOTARA YA 4 THEMPLEITI YA MORALO WA BEKE LE BEKE

Kotara ya 4: Moralo wa Ketsahalo: Beke ya _____

KAROLO YA DIKAHARE:			
SEHLOOHO:			
TSEBISA TSEBO E NTJHA:			
HO ETSA:			
Diketsahalo tsa tlelase yohle		**Ketsahalo e tataiswang ke titjhere**	**Diketsahalo tsa diteisheneng tsa tshebetso (diketsahalo tsa dihlotshwana tse ikemetseng)**
Letsatsi la 1			**Ketsahalo ya 1**
Letsatsi la 2			**Ketsahalo ya 2**
Letsatsi la 3			**Ketsahalo ya 3**
Letsatsi la 4			**Ketsahalo ya 4**
Letsatsi la 5			

Term 4: Activity Plan: Week ____

CONTENT AREA:			
TOPIC:			
INTRODUCE NEW KNOWLEDGE:			
PRACTISE:			
Whole class activities		**Teacher-guided activity**	**Workstation activities (independent small group activities)**
Day 1			**Activity 1**
Day 2			**Activity 2**
Day 3			**Activity 3**
Day 4			**Activity 4**
Day 5			

Kotara ya 4: Moralo wa Ketsahalo: Beke ya _____

KAROLO YA DIKAHARE:		
SEHLOOHO:		
TSEBISA TSEBO E NTJHA:		
HO ETSA:		
Diketsahalo tsa tlelase yohle	**Ketsahalo e tataiswang ke titjhere**	**Diketsahalo tsa diteisheneng tsa tshebetso (diketsahalo tsa dihlotshwana tse ikemetseng)**
Letsatsi la 1		**Ketsahalo ya 1**
Letsatsi la 2		**Ketsahalo ya 2**
Letsatsi la 3		**Ketsahalo ya 3**
Letsatsi la 4		**Ketsahalo ya 4**
Letsatsi la 5		

Term 4: Activity Plan: Week ____

CONTENT AREA:	
TOPIC:	
INTRODUCE NEW KNOWLEDGE:	
PRACTISE:	

Whole class activities		Teacher-guided activity	Workstation activities (independent small group activities)	
Day 1			Activity 1	
Day 2			Activity 2	
Day 3			Activity 3	
Day 4			Activity 4	
Day 5				

Kotara ya 4: Moralo wa Ketsahalo: Beke ya _____

| KAROLO YA DIKAHARE:		
SEHLOOHO:		
TSEBISA TSEBO E NTJHA:		
HO ETSA:		
Diketsahalo tsa tlelase yohle	**Ketsahalo e tataiswang ke titjhere**	**Diketsahalo tsa diteisheneng tsa tshebetso (diketsahalo tsa dihlotshwana tse ikemetseng)**
Letsatsi la 1		**Ketsahalo ya 1**
Letsatsi la 2		**Ketsahalo ya 2**
Letsatsi la 3		**Ketsahalo ya 3**
Letsatsi la 4		**Ketsahalo ya 4**
Letsatsi la 5		

APPENDIX B: THE GUIDING PRINCIPLES OF TEACHING MATHS IN GRADE R (PICTURES)
**SEHLOMATHISO B: DINTLHATHEO TSE TATAISANG HO RUTA MMETSE KEREITING YA R (DITSHWANTSHO)**
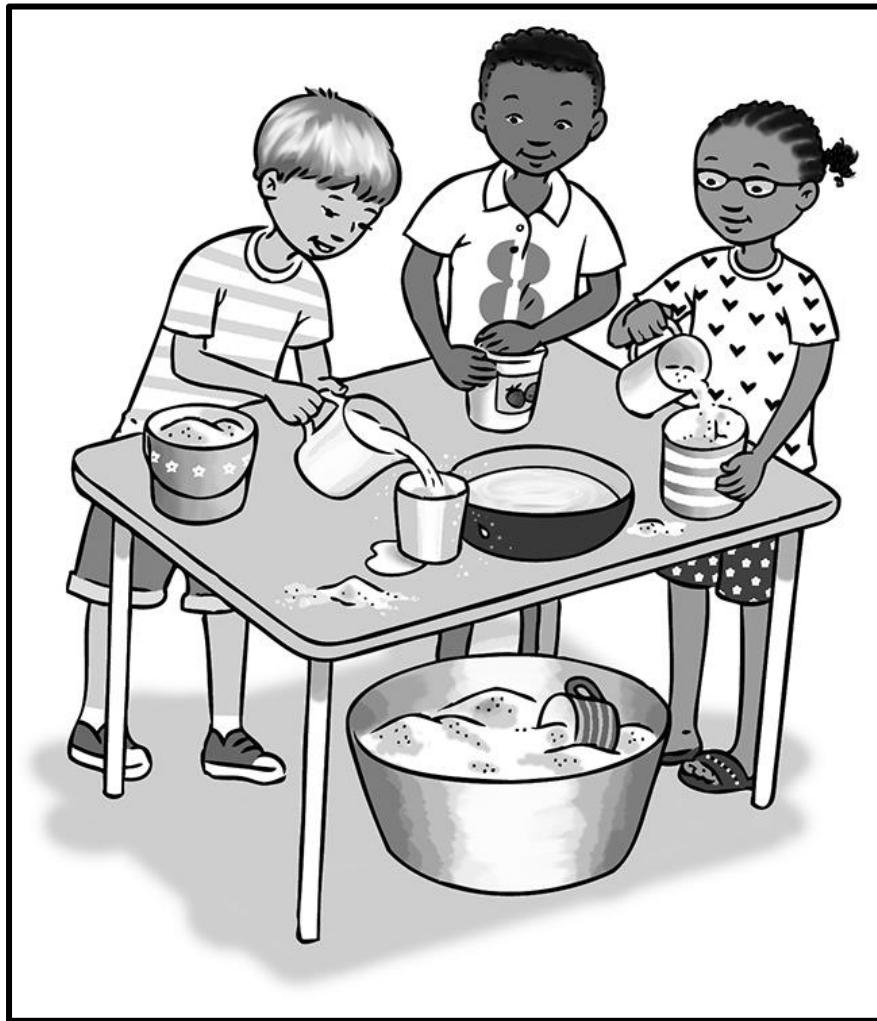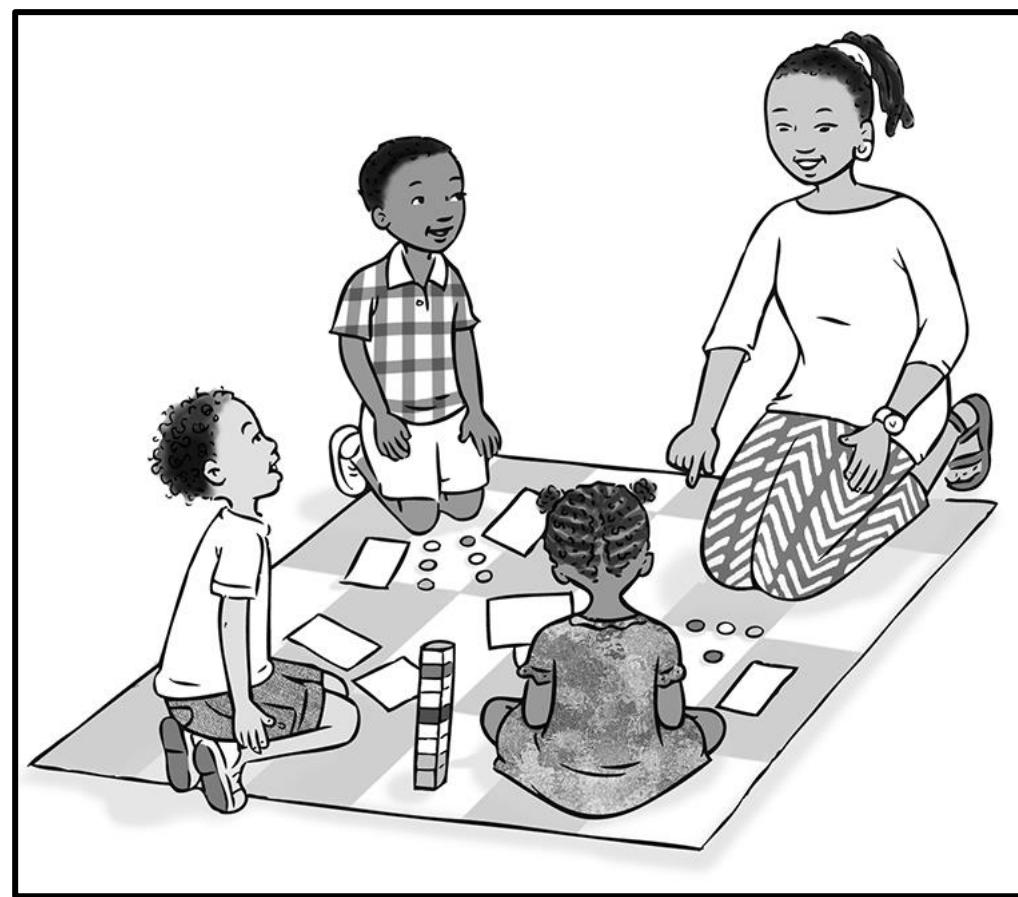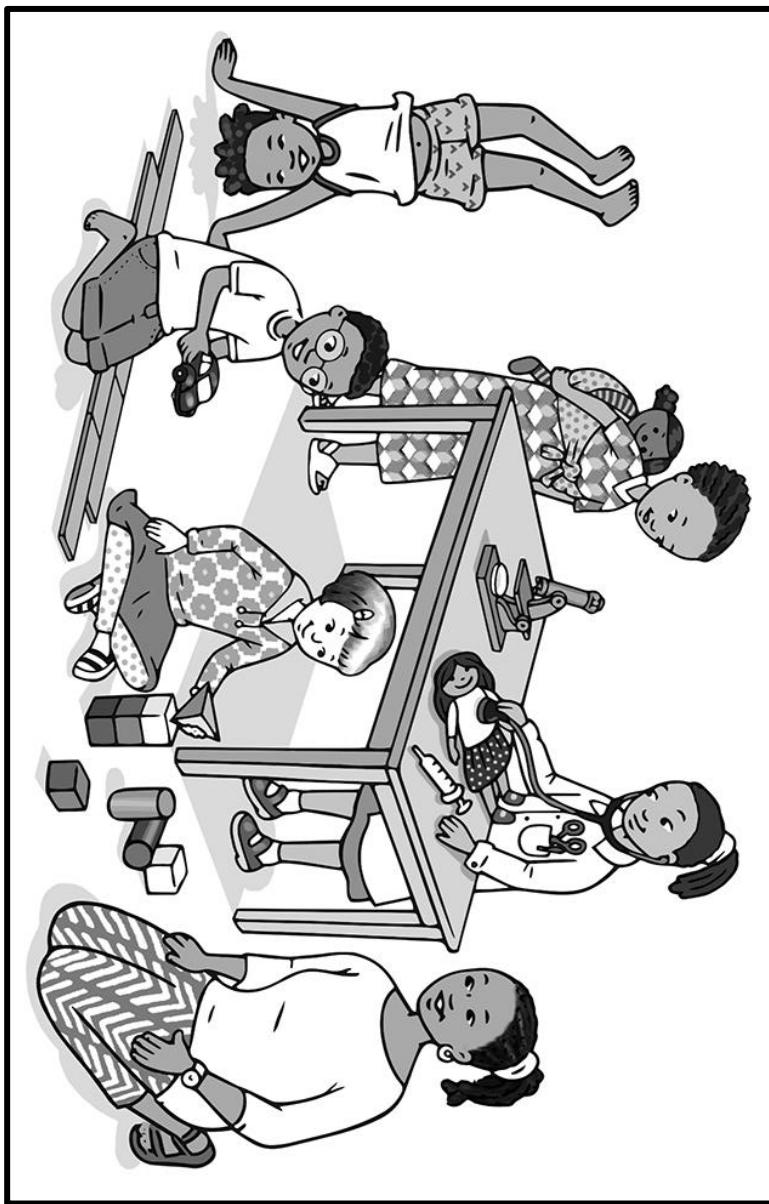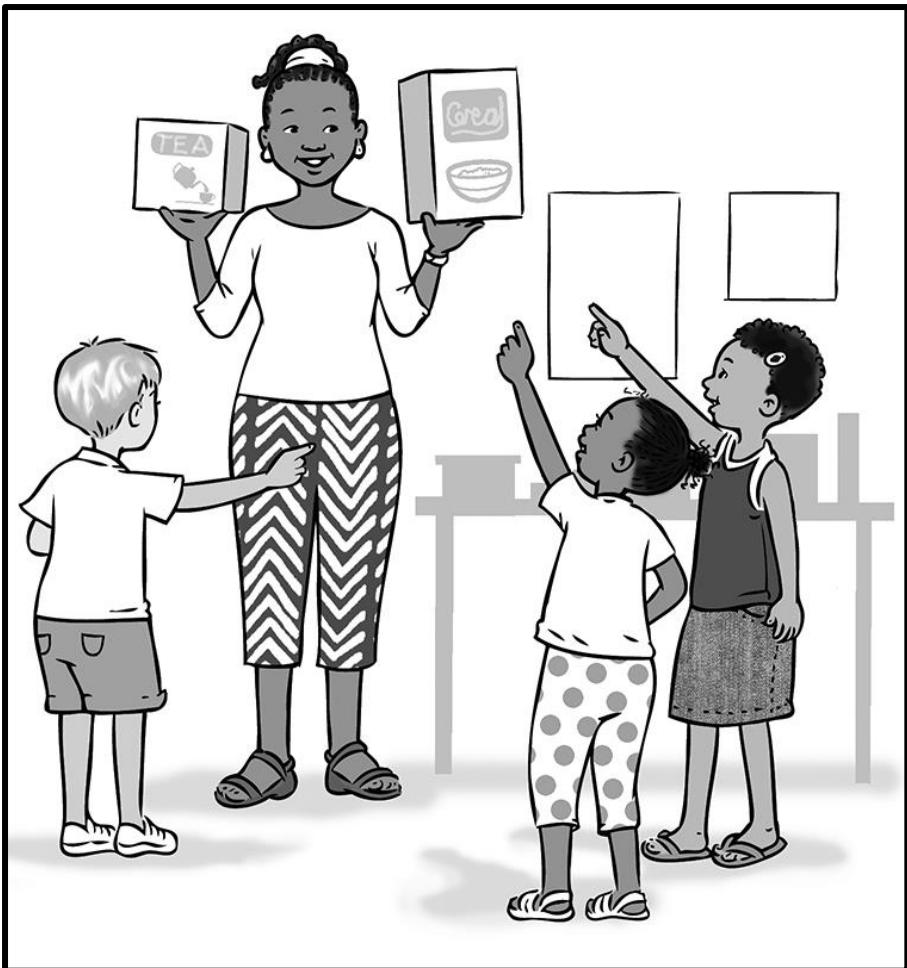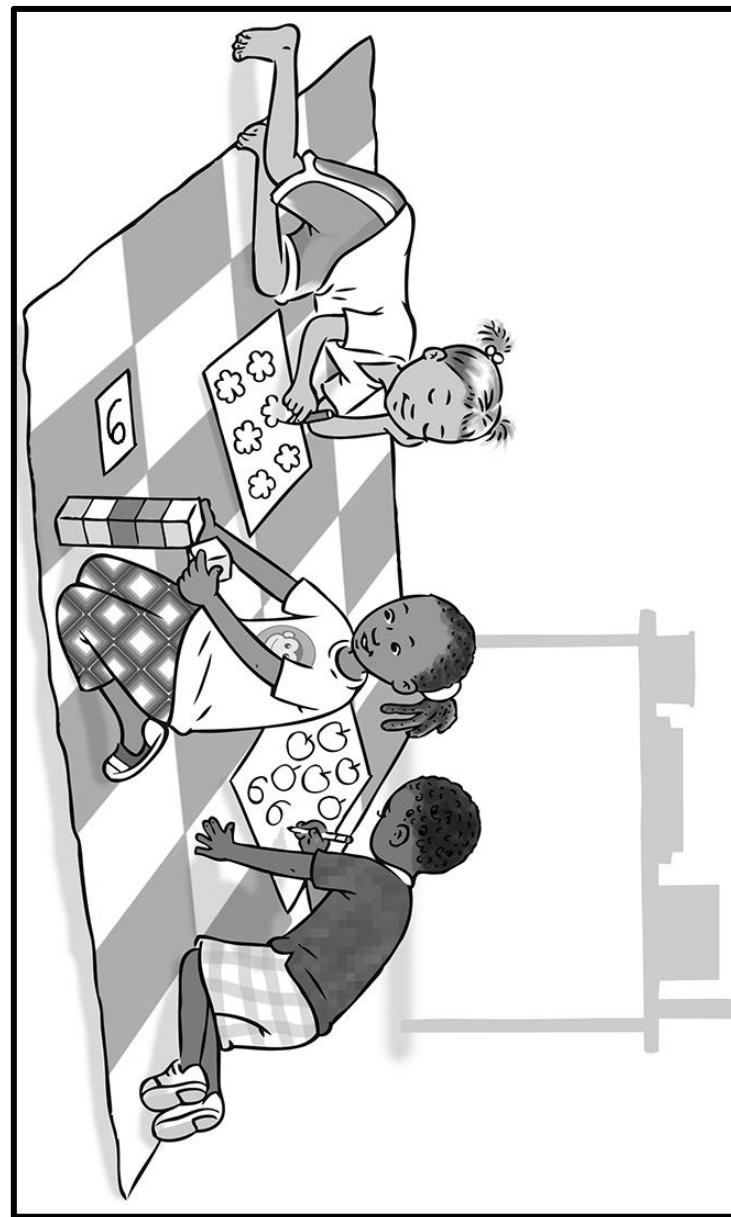
APPENDIX C: EXPANDING NUMBER CARDS

10
20
30
40

1	2
3	4
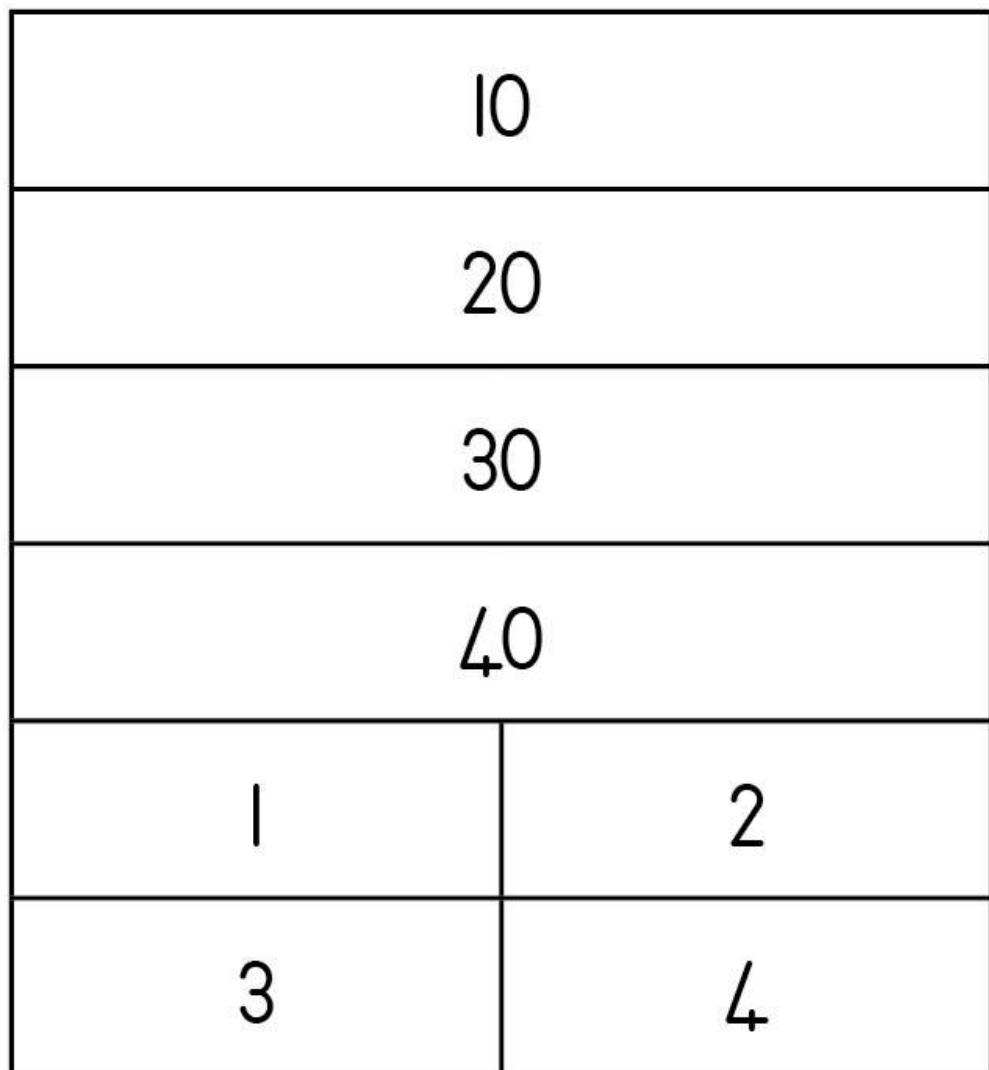
SEHLOMATHISO C: DIKARETE TSA DINOMORO TSE ATOLOSWANG

10
20
30
40

1	2
3	4

Workshop 10 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 10

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?

_____

_____

_____

_____