



GAUTENG PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

GGT 2030
GROWING GAUTENG TOGETHER

Sesotho/English

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



**Wekshopo ya 1 • Workshop 1
Tataiso ya Motsamaisi • Facilitator's Guide**

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

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

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

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

ACKNOWLEDGEMENTS

Special thanks to:

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



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

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Projeke ya Mmetse wa Kereiti ya R le Ntlatso 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 Ntlatso 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 Ntlatso 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 Ntlatso 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 ntlatsoeng 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 kotleho ha Grade R Mathematics Programme (*R-Maths*) mane Western Cape pakeng tsa 2016 le 2019.
- Sehlopha se ngolang sa *R-Maths*. Basebetsi le baeletsi ba SDU.



Lenaneo le Ntlatsoeng la Mmetse la Kereite ya R le ntlatsoeng ho tloha ho *R-Maths*, e ileng ya phatlalatswa lekgetlo la pele ka 2017 ke Schools Development Unit, University of Cape Town. Tokelo ya kgatiso ya *R-Maths* e tshwerwe ke University of Cape Town.

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Overview

Purpose

This is the first 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.

Participants will receive information on the components and guiding principles of teaching mathematics in Grade R. They will reflect on and discuss these within the context of their own planning and teaching. Participants will also review the Curriculum and Assessment Policy Statement (CAPS) Grade R Mathematics Content Areas. They will plan the daily programme Mathematics focus time for the first two weeks of Term 1. Throughout the workshop they will reflect on the guiding principles that inform teaching and learning.

*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

Mathematics is the formal subject name, but in this *Facilitator's Guide* and during our discussions we will refer to it as 'maths'. (Read more about this on page 10 of the *Concept Guide*.)

Learning outcomes

- ◆ To become familiar with the Maths Programme and how it supports and extends the content of CAPS Grade R Mathematics
- ◆ To explore the components of the Maths Programme
- ◆ To understand the teaching principles presented in the Maths Programme
- ◆ To plan a Term 1 week based on the five-group teaching model
- ◆ To engage with the Maths Programme content of Term 1 Weeks 1–2 (Numbers, Operations and Relationships)

Workshop content

- ◆ Session 1: Orientation to the Maths Programme (2 hours)
TEA
- ◆ Session 2: Numbers, Operations and Relationships (2 hours)
LUNCH
- ◆ Session 3: Implementing the five-group teaching model (2 hours)

Tjhebokakaretso

Sepheo

Ena ke ya pele 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.

Bankakarolo ba tla fumana tlhahisoleseding mabapi le dikarolo le dintlhatheo tsa tataiso tsa ho ruta mmetse Kereiting ya R. Ba tla sekaseka le ho buisana ka tsona ho ya ka meralo ya bona le ho ruta. Bankakarolo hape ba tla lekola botjha Setatementsa sa Leano la Kharikhulamo le Tekanyetso (SLKT) *Grade R Maths* Dikarolo tsa Dikahare. Ba tla rera nako ya ho tsepama ho lenaneo la Mmetse la letsatsi le letsatsi bakeng sa dibeke tse pedi tsa pele tsa Kotara ya 1. Nakong yohle ya wekshopo ba tla sekaseka dintlhatheo tsa tataiso tse hlahosang ho ruta le ho ithuta.

*Dikarolo tsa Dikahare tsa Mmetse wa Kereiti ya R di nkilwe ho *Setatementsa 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 itlwaetsa Lenaneo la Mmetse le kamoo le tshehetsang le ho atolosa dikahare tsa SLKT tsa Mmetse wa Kereiti ya R
- ◆ Ho sibolla dikarolo tsa Lenaneo la Mmetse
- ◆ Ho utlwisisa dintlhatheo tsa ho ruta tse hlahisitsweng ho Lenaneo la Mmetse
- ◆ Ho rala beke ya Kotara ya 1 ho itshetlehilwe ho mmotlolo wa ho ruta wa dihlopha tse hlano
- ◆ Ho sekaseka dikahare tsa Lenaneo la Mmetse la Kotara ya 1 Dibeke tsa 1–2 (Dinomoro, Matshwao le Dikamano)

Dikahare tsa wekshopo

- ◆ Karolo ya 1: Tlwaetso ho Lenaneo la Mmetse (Dihora tse 2)
TEYE
- ◆ Karolo ya 2: Dinomoro, Matshwao le Dikamano (Dihora tse 2)
DIJO TSA MOTSHEARE
- ◆ Karolo ya 3: Ho kenya tshebetsong mmotlolo wa ho ruta wa dihlopha tse hlano (Dihora tse 2)

House rules

- ◆ Be punctual.
- ◆ Turn off your cellphone during sessions.
- ◆ Give everyone a chance to participate.
- ◆ Listen to each other's ideas.

Preparation

- ◆ PPT presentations
- ◆ Read:
Concept Guide, pages 114–117
Activity Guide: Term 1, pages 18–21
Appendix B: Term 1 Weekly Content Summary
- ◆ Set out a Maths Programme *Resource Kit*, kokis and paper on each group's table.
- ◆ Prepare the number frieze story and gather materials.
- ◆ Make a house template on a large sheet of flipchart paper – draw a house shape divided into four parts.
- ◆ Colour in the Number 1 frieze cards in Appendix C. Glue them onto cardboard

Materials

- ◆ Attendance register
- ◆ Flipchart paper, kokis
- ◆ Copies of the *Participant's Workbook*, *Concept Guide* and *Activity Guide: Term 1*
- ◆ *Resource Kits*
- ◆ Puzzle pieces
- ◆ Number frieze house template and frieze cards

Melawana ya tsamaiso

- ◆ Fihla ka nako.
- ◆ Tima selefouno ya hao nakong ya dithuto.
- ◆ Efa bohle sebaka sa ho nka seabo.
- ◆ Mamelanang ha batho ba fana ka mehopolo ya bona.

Tokisetso

- ◆ Dinehelano ka PPT
- ◆ Bala:

Tataiso ya Mareo, maqephe 114–117

Tataiso ya Diketsahalo: Kotara ya 1, maqephe 18–21

Sehloathiso B: Kotara ya 1 Kakaretso ya Dikahare tsa Beke le Beke

- ◆ Bakeng sa *Khiti ya Disebediswa* tsa Lenaneo la Mmetse, dikoki le pampiri tafoleng ya sehlopha ka seng.
- ◆ Lokisa pale ya frizi ya nomoro mme o bokelle disebediswa.
- ◆ Etsa thempleiti ya ntlo hodima leqephe le leholo la pampiri ya fliptjhate – taka sebopeho sa ntlo se arotsweng ka dikarolo tse nne.
- ◆ Kenya mebala ho dikarete tsa frizi ya Nomoro ya 1 tse ho Sehloathiso C. Di kgomaretse hodima khateboto.

Disebediswa

- ◆ Rejistara ya ba teng
- ◆ Pampiri ya fliptjhate, dikoki
- ◆ Dikhopi tsa *Buka ya Mosebetsi ya Monkakarolo, Tataiso ya Mareo le Tataiso ya Diketsahalo: Kotara ya 1*
- ◆ *Dikhiti tsa Disebediswa*
- ◆ Dikotwana tsa diphazele
- ◆ Thempleiti ya ntlo ya frizi ya nomoro le dikarete tsa difrizi

Session 1: Orientation to the Maths Programme

2 hours

Facilitator's notes

- ◆ Participants should be seated in small groups of six to eight people. Observe COVID-19 protocols.
- ◆ Give each person a *Participant's Workbook* and the attendance register.
- ◆ Welcome the participants and introduce yourself.
- ◆ Discuss the house rules for working together during all workshops (see page 8).
- ◆ Give participants an opportunity to introduce themselves in their small groups and then to the whole group.
- ◆ Encourage them to share their training and teaching experiences.
- ◆ Invite participants to share their expectations of the workshop.

Registration

Welcome and house rules (10 minutes)

Welcome to the first of twelve maths workshops for the Gauteng Department of Education (GDE) Grade R Mathematics and Language Improvement Project.

Let's start with an introduction to the presenters and agree on a set of house rules.

Sharing teaching experiences (15 minutes)



Activity 2

1. Take some time to reflect on your experience of teaching Grade R, especially teaching maths in Grade R. Think about your training and how it prepared you for maths teaching. Also try to identify your strengths and weaknesses in maths.

2. Share some of your good experiences and bad experiences with a partner.
3. Choose one person from your group to capture the thoughts that everyone shared.

Karolo ya 1: Tlwaetso ho Lenaneo la Mmetse

Dihora tse 2

Dinoutso tsa motsamaisi

- ◆ Bankakarolo ba lokela ho dula ka dihlotshwana tsa batho ba tsheletseng ho isa ho ba robedi. Le hlomphe melawana ya COVID-19.
- ◆ Efa motho ka mong *Buka ya Mosebetsi ya Monkakarolo* le rejistara ya ba teng.
- ◆ Amohela bankakarolo mme o itsebise.
- ◆ Buisanang ka melawana ya tsamaiso bakeng sa ho sebetsa mmoho nakong ya diwekshopo kaofela (sheba leqephe la 9).
- ◆ Efa bankakarolo monyetla wa ho itsebisa dihlotshwaneng tsa bona le ho sehlopha sohle.
- ◆ Ba kgothaletse ho abelana ka boitsebelo ba bona ba thupello le ho ruta.
- ◆ Mema bankakarolo ho bua ka tseo ba di lebelletseng ho wekshopo ena.

Ngodiso

Kamohelo le melawana ya tsamaiso

(Metsotso e 10)

Le amohetswe ho wekshopo ya mmetse ya pele ho tse leshome le metso e mmedi bakeng sa Projeke ya Mmetse wa Kereiti ya R le Ntlatatso ya Puo ya Lefapha la Thuto la Gauteng (GDE).

Ha re qaleng ka boitsebiso ho banehelani mme re dumellaneng ka sete ya melawana ya tsamaiso.

Ho abelana ka boitsebelo ba ho ruta

(Metsotso e 15)



Ketsahalo ya 2

1. Iphe nako ya ho ikgopotsa ka boitsebelo ba hao ba ho ruta Kereiti ya R, haholoholo ho ruta mmetse Kereiting ya R. Nahana ka thupello ya hao le kamoo e ileng ya o lokisetsa ho ruta mmetse. Hape leka ho hlwaya matla a hao le bofokodi ba hao ho mmetse.

2. Abelana ka tse ding tsa dintho tse ntle le tse mpe tseo o kopaneng le tsona ha o ruta mmoho le molekane wa hao.
3. Kgetha motho a le mong sehlotshwaneng sa hao ho ngola mehopolo e buuwang ke bohle.

Why a Maths Programme for Grade R?

Facilitator's notes

- ◆ PPT: Summary of the information below.
- ◆ Discuss the importance of improving maths learning and teaching in the Foundation Phase. Introduce the GDE Grade R Mathematics Improvement Programme as an intervention to enhance the implementation of the CAPS curriculum for Grade R.

Many South African primary school learners underperform in Language and Mathematics. A high percentage of learners fail to achieve even the minimum expected standards in these core subjects. There has been slow progress in the improvement of educational outcomes and in narrowing the achievement gap between learners from different backgrounds. The reasons for this are complex, go beyond the classroom and are affected by children's development and well-being from birth.

One of the critical issues around preschool access and attendance, as well as infrastructure and school management in South Africa, has been the fundamental questions about what and how children are learning. In order for all children to have a better chance of fulfilling their potential in Mathematics, the focus must broaden to include maths development in Grade R and, crucially, to provide Grade R teachers and practitioners with the knowledge and skills needed to support young children's maths learning.

The GDE identified Early Childhood Development as its Strategic Goal 1 and one of its key goals is to improve Home Language and Mathematics learning in Grade R. Through the Grade R Mathematics and Language Improvement Programme, the GDE is striving to improve performance in Grade R and prepare learners for Grade 1.

We believe that the Maths Programme will make an important contribution to the implementation of CAPS and that it will enhance the existing learning opportunities for all learners in Grade R so that they develop to their full potential.

What is the Grade R Maths Programme?

Facilitator's notes

- ◆ PPT: Page 10 of the *Concept Guide*, summary of the information below.

The Maths Programme focuses on teaching and learning one maths concept or topic at a time. The main focus of each week is on one CAPS Content Area. New knowledge is introduced through:

Hobaneng Lenaneo la Mmetse bakeng sa Kereiti ya R?

Dinoutso tsa motsamaisi

- ◆ PPT: Kakaretso ya tlhahisoleseding e ka tlase.
- ◆ Buisanang ka bohlokwa ba ho ntlafatsa ho ithuta le ho ruta mmetse Mophatong wa Motheo. Tsebisa Lenaneo le Ntlafaditsweng la Mmetse la Kereiti ya R la GDE jwaloka bokenadipakeng ho ntlafatsa ho kenngwa tshebetsong ha kharikhulamo ya SLTK bakeng sa Kereiti ya R.

Baithuti ba bangata ba dikolo tsa poraemari ba Afrika Borwa ba sebetsa hampe ho Puo le ho Mmetse. Peresente e hodimo ya baithuti e hloleha ho fihlella le ha ele maemo a tlaselase a lebelletsweng dithutong tsena tsa bohlokwa. Ho na le kgatelopele e lenama ntlafatsong ya diphetho tsa thuto le ho fokotsa sekgeo sa phihlello dipakeng tsa baithuti ba tswang ditikolohong tse fapaneng. Mabaka bakeng sa sena a thata, a tswela ntle ho phaposi ya borutelo mme a angwa ke ntshetsopele ya bana le bophelo ba bona ho tloha tswalong.

Le leng la mathata a bohlokwa mabapi le phihlello le ho ya sekolong sa ba banyane, esitana le moralomotho le tsamaiso ya dikolo Afrika Borwa, haesale e le potso ya bohlokwa mabapi le seo bana ba ithutang sona le kamoo ba ithutang kateng. Hore bana bohle ba tle ba be le monyetla o betere wa ho fihlela bokgoni ba bona ho Mmetse, tsepamo e ka atiswa ho kenyetsa ntshetsopele ya mmetse ho Kereiti ya R le, haholoholo, ho fa matitjhere le barutabana ba Kereiti ya R tsebo le bokgoni tse hlokehang ho tshehetsa ho ithuta mmetse ha bana ba banyenyane.

GDE e hlwaile Ntshetsopele ya Thuto ya Bana ba banyenyane jwaloka Sepheo sa 1 sa Lewa sa lona mme se seng sa dipheo tsa lona tsa sehlooho ke ho ntlafatsa ho ithuta Puo ya Lapeng le Mmetse Kereiting ya R. Ka Projeke ya Mmetse wa Kereiti ya R le Ntlafatso ya Puo, GDE le tsitlallela ho ntlafatsa tshebetso Kereiting ya R le ho lokisetsa baithuti bakeng sa Kereiti ya 1.

Re dumela hore Lenaneo la Mmetse le tla etsa nyehelo ya bohlokwa ho kenya tshebetsang SLTK le hore e tla ntlafatsa menyetla ya ho ithuta e teng bakeng sa baithuti bohle ba Kereiti ya R ele hore ba tle ba tswela pele ho fihlela bokgoni ba bona bo fellelseng.

Lenaneo la Mmetse la Kereiti ya R ke eng?

Dinoutso tsa motsamaisi

- ◆ PPT: Leqephe la 11 la *Tataiso ya Mareo*, kakaretso ya tlhahisoleseding ka tlase mona.

Lenaneo la Mmetse le tsepame ho ho ruta le ho ithuta lereo le le leng la mmetse kapa sehlooho se le seng ka nako. Tsepamo ya sehlooho ya beke ka nngwe e ho Karolo ya Dikahare e le nngwe ya SLTK. Tsebo e ntjha e tsebiswa ka:

- ◆ whole class activities
- ◆ small group activities: teacher-guided activities and independent (side) activities
- ◆ free choice activities.

The Maths Programme:

- ◆ supports, extends and reinforces the content of CAPS Grade R Mathematics. It does not replace CAPS and it assumes that teachers have some prior knowledge and understanding of CAPS Grade R Mathematics.
- ◆ promotes focus time so that learners can practise newly acquired skills and knowledge, and embeds practise opportunities in planned maths activities and experiences.
- ◆ gives teachers a detailed guide that supports teaching and learning.
- ◆ is guided by eight principles that contribute to successful teaching and learning.
- ◆ supports teachers in making the link between Grade R Mathematics concepts and later mathematical competence.
- ◆ emphasises the weekly observation of learners as a tool for gathering information about each child to inform planning and assessment.

Refer to page 10 of the *Concept Guide* to read more about the Grade R Mathematics Improvement Programme.

Read more about the Maths Programme's guiding principles on pages 14–73 of the *Concept Guide*.

- ◆ diketsahalo tsa tlelase yohle
- ◆ diketsahalo tsa dihlotshwana: diketsahalo tse tataiswang ke titjhere le diketsahalo tse ikemetseng (lehlakore)
- ◆ diketsahalo tsa kgetho ya bolokolohi.

Lenaneo la Mmetse:

- ◆ le tshehetsa, le atolosa le ho hatella dikahare tsa SLTK ya Mmetse wa Kereiti ya R. Ha le nke sebaka sa SLTK mme le nka hore titjhere o na le tsebo e itseng ya pele le kutlwisiso ya Mmetse wa Kereiti ya R wa SLTK.
- ◆ le phahamisa nako ya tsepamiso ele hore baithuti ba ka ikwetlisetsa bokgoni bo botjha le tsebo tseo ba di fumaneng, mme le fana ka menyetla ya ho ikwetlisa diketsahalong tsa mmetse tse rerilweng le boitsebelo.
- ◆ le fa matitjhere tataiso e nang le dintlha tsohle e tshehetsa ho ruta le ho ithuta.
- ◆ le tataiswa ke dintlhatheo tse robedi tse nyehelang ho ho ruta le ho ithuta ho atlehileng.
- ◆ le tshehetsa matitjhere bakeng sa ho etsa kgokahano pakeng tsa mareo a Mmetse a Kereiti ya R mme ha morao boitsebelo ba mmetse.
- ◆ le hatella temoho ya beke le beke ya baithuti jwaloka sesebediswa sa ho bokella tlhahisoleseding mabapi le ngwana ka mong ho lokisetsa moralo le tekanyetso.

Sheba leqephe la 13 la *Tataiso ya Mareo* ho bala ho feta ka Lenaneo le Ntlafaditsweng la Mmetse la Kereiti ya R.

Bala hape mabapi le dintlhatheo tse tataisang tsa Lenaneo la Mmetse ho maqephe ana 14–73 a *Tataiso ya Mareo*.

Time allocation for Mathematics in Grade R

(10 minutes)

Facilitator's notes

- ◆ PPT: Time allocation in Grade R (*Concept Guide*, page 76/77, Table 1).
- ◆ Refer participants to the *Concept Guide*, pages 74–77.

CAPS suggests that the instructional time for Mathematics in Grade R should be 23 hours per week. However, CAPS does not provide a weighting or a breakdown of the time that should be spent on each Content Area for each term.

Maths in the Grade R daily programme

(20 minutes)

The daily programme in Grade R is not a timetable like the ones used in higher grades.

In Grade R the day is organised around the developmental needs of the learners. The day begins with time to talk and sing and ends with rest and stories. During the day, teachers plan activities for Home Language, Life Skills and Mathematics knowledge and understanding. During play and interaction with the teacher and other learners there are many opportunities for the integration of new skills and time to practise what has been learnt.

The Maths Programme suggests a way of organising the daily programme with focus time for Home Language, Life Skills and Mathematics.

Facilitator's notes

- ◆ PPT: Grade R daily programme (*Concept Guide*, page 80/81, Figure 31).
- ◆ Refer participants to the *Concept Guide*, pages 78–81.
- ◆ Discuss Mathematics focus time in relation to Home Language focus time, which has already been introduced.

Kabo ya nako bakeng sa Mmetse Kereiting ya R (Metsotso e 10)

Dinoutso tsa motsamaisi

- ◆ PPT: Kabo ya nako Kereiting ya R (*Tataiso ya Mareo*, leqephe la 76/77, Tafole ya 1).
- ◆ Ere bankakarolo ba shebe *Tataiso ya Mareo*, maqephe a 74–77.

SLTK e hlahisa hore nako ya ho ruta bakeng sa Mmetse Kereiting ya R e lokela ho ba dihora tse 23 ka beke. Le ha ho le jwalo, SLKT ha e fane ka tekanyo kapa ho arola nako e lokelang ho qetwa ho Karolo ya Dikahare ka nngwe bakeng sa kotara ka nngwe.

Mmetse ho Lenaneo la letsatsi le letsatsi la Kereiti ya R

(Metsotso e 20)

Lenaneo la letsatsi le letsatsi Kereiting ya R ha se pakathuto e jwaloka tse sebediswang dikereiting tse ka hodimo.

Kereiting ya R letsatsi le hlophiswa ho ya ka ditlhoko tsa ntshetsopele tsa baithuti. Letsatsi le qala ka nako ya ho bua le ho bina mme le qetella ka phomolo le dipale. Hara letsatsi, matitjhere a rera diketsahalo bakeng sa tsebo le kutlwisiso ya Puo ya Lapeng, Bokgoni ho tsa Bophelo le Mmetse. Ka nako ya ho bapala le ho hokahana le titjhere le baithuti ba bang ho na le menyetla e mengata bakeng sa kgokahanyo ya bokgoni bo botjha le nako ya ho sebedisa tseo ba ithutileng tsona.

Lenaneo la Mmetse le hlahisa tsela ya ho hlophisa lenaneo la letsatsi le letsatsi ka nako ya tsepamo bakeng sa Puo ya Lapeng, Bokgoni ho tsa Bophelo le Mmetse.

Dinoutso tsa motsamaisi

- ◆ PPT: Lenaneo la letsatsi le letsatsi la Kereiti ya R (*Tataiso ya Mareo*, leqephe la 80/81, Setshwantsho sa 31).
- ◆ Ere bankakarolo ba shebe *Tataiso ya Mareo*, maqephe 78–81.
- ◆ Buisanang ka nako ya tsepamo ya Mmetse papisong le nako ya tsepamo ya Puo ya Lapeng, e seng e tsebisitswe.

Daily Mathematics focus time

Facilitator's notes

- ◆ PPT: Daily Mathematics focus time (*Concept Guide*, page 82/83, Figure 33, or the diagram below). Summarise the information on pages 84–93 of the *Concept Guide*.

Guidelines for classroom organisation and management of the Mathematics focus time

1. Whole class maths sessions

- ◆ 15–25 minutes
- ◆ All learners sit in a circle together with the teacher.
- ◆ Activities:
 - Consolidate and provide practice of previously taught concepts.
 - Introduce a new concept.
 - Extend the concept that is the main focus of the week:
 - oral/rote counting (rhymes, songs, sequencing numbers)
 - counting objects
 - posing problems, memory games.
 - Give instructions for the small group activities at the workstations.

2. Small group maths sessions

- ◆ The class is divided into five groups of six to eight learners each.
- ◆ Each day one group works with the teacher (teacher-guided activity) and four groups work independently on planned maths activities at the workstations.
- ◆ Groups rotate daily.
- ◆ Activities:
 - Consolidate and provide opportunities to practise previously taught concepts.
 - Investigate the new concept that is the main focus of the week.
 - Provide opportunities to practise the concept that is the main focus of the week.
- ◆ The **teacher-guided activity** focuses on working with one group of learners to:
 - consolidate and practise previously taught concepts
 - deepen the understanding of a new concept
 - observe learners' progress.

3. Free choice activities

- ◆ Additional free choice activities with a maths focus are provided for learners who have completed their small group activity.

The Language training introduced you to a two-week teaching and learning cycle. The Maths Programme also follows a structured approach to organising the class for the Mathematics focus time. The Maths Programme's teaching and learning cycle is based on five small group activities that are rotated during one week. The lessons begin on a Monday and end on a Friday.

Nako ya tsepamiso ya Mmetse wa Letsatsi le letsatsi

Dinoutso tsa motsamaisi

- ◆ PPT: Nako ya tsepamiso ya Mmetse wa Letsatsi le letsatsi (*Tataiso ya Mareo*, leqephe la 82/83, Setshwantsho sa 33, kapa setshwantsho se ka tlase mona). Akaretsa tlhahisoleseding e maqepheng ana 84–93 a *Tataiso ya Mareo*.

Ditataiso bakeng sa tlhophiso le taolo ya phaposi ya borutelo ya nako ya tsepamiso ya Mmetse

1. Karolo ya mmetse ya tlelase yohle

- ◆ Metsotso e 15–25
- ◆ Baithuti bohle ba dula ka sedikadikwe mmoho le titjhere.
- ◆ Diketsahalo:
 - Kgobokanya mme o fane ka sebaka sa ho sebedisa mareo a ithutilweng nakong e fetileng.
 - Tsebisa lereo le letjha.
 - Atolosa lereo leo e leng tsepamo ya beke eo:
 - ho bala ka molomo/modumo (diraeme, dipina, tlhahlamanyo ya dinomoro)
 - ho bala dintho
 - ho hlahisa mathata, dipapadi tsa kgopolo.
 - Fana ka ditaello bakeng sa diketsahalo tsa dihlotshwana diteisheneng tsa tshebetso.

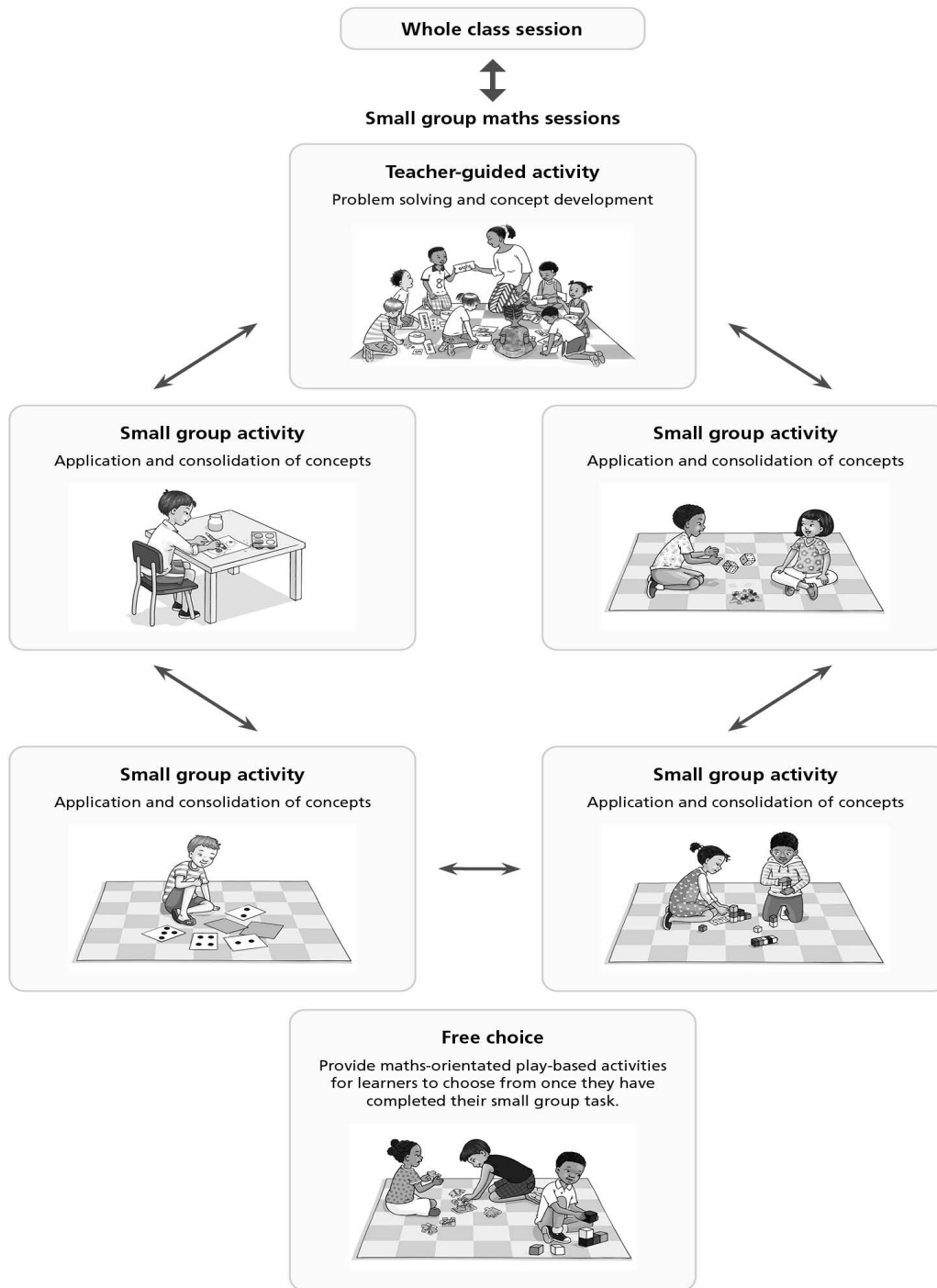
2. Dikarolo tsa mmetse tsa dihlotshwana

- ◆ Tlelase e arolwa ka dihlotshwana tse hlano tsa baithuti ba tsheletseng ho isa ho ba robedi sehlopha ka seng.
- ◆ Letsatsi ka leng sehlopha se le seng se sebetsa le titjhere (ketsahalo e tataiswang ke titjhere) mme dihlopha tse nne di sebetsa ka boikemelo diketsahalong tse rerilweng tsa mmetse diteisheneng tsa tshebetso.
- ◆ Dihlopha di fanyetsana letsatsi le letsatsi.
- ◆ Diketsahalo:
 - Kgobokanya le ho fana ka menyetla ya ho sebedisa mareo a ithutilweng nakong e fetileng.
 - Batlisisa lereo le letjha leo e leng tsepamo ya beke eo.
 - Fana ka menyetla ya ho ikwetlisa ka lereo leo e leng tsepamo ya beke eo.
- ◆ **Ketsahalo e tataiswang ke titjhere** e tsepama ho sebetseng le sehlopha se le seng sa baithuti ho:
 - kgobokanya le ho sebedisa mareo a rutilweng nakong e fetileng
 - tebisa kutlwisiso ya lereo le letjha
 - shebella kgatelopele ya baithuti.

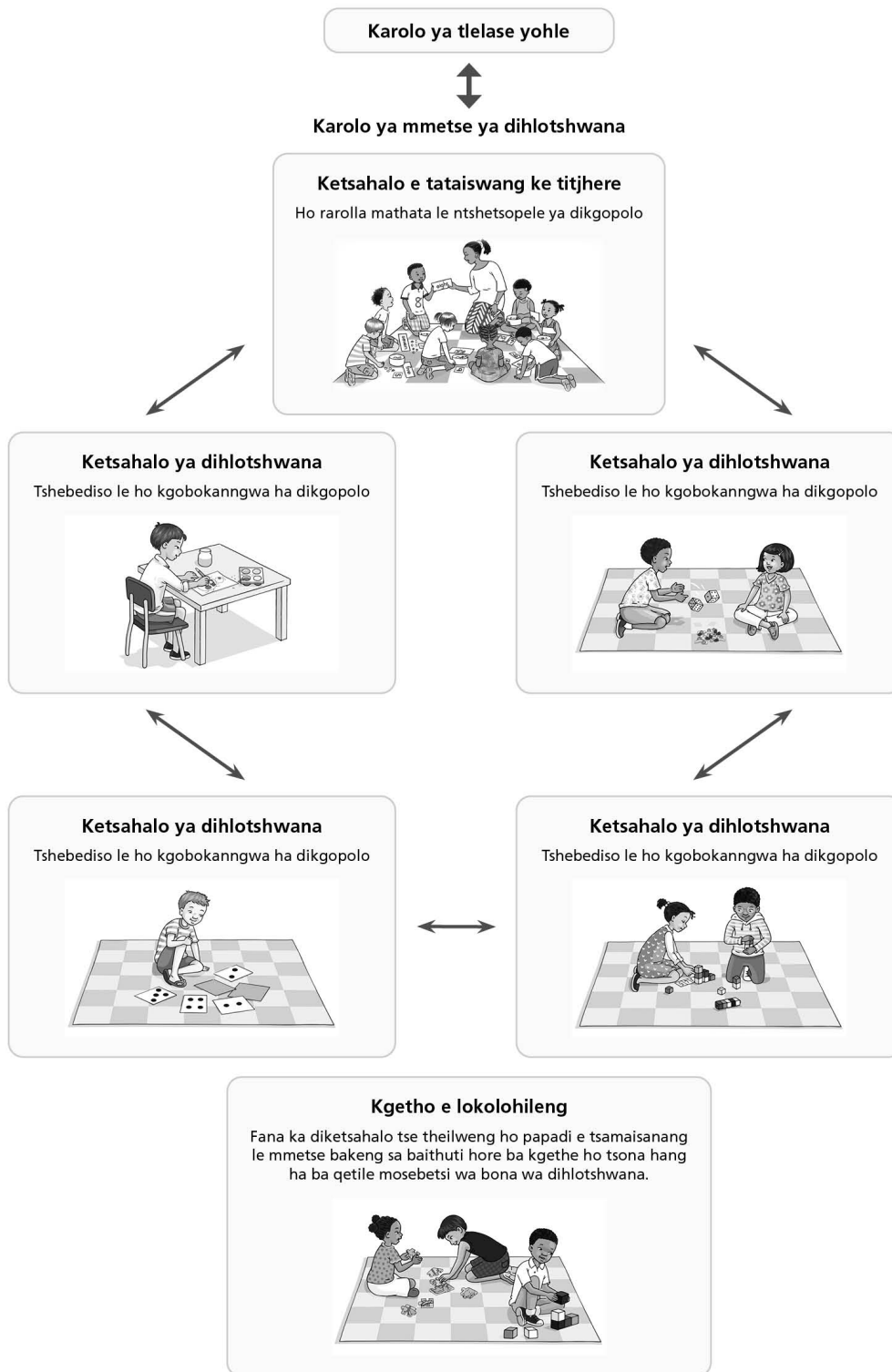
3. Diketsahalo tsa kgetho ya bolokolohi

- ◆ Diketsahalo tse ding hape tsa kgetho ya bolokolohi tse tsepamisitsweng ho mmetse di fuwa baithuti ba qetileng ketsahalo ya bona ya dihlotshwana.

Thupello ya Puo e o tsebisitse saekele ya dibeke tse pedi tsa ho ruta le ho ithuta. Lenaneo la Mmetse hape le latela mokgwa o nang le sebopeho wa ho hlophisa tlelase bakeng sa nako ya tsepamiso ya Mmetse. Saekele ya Lenaneo la Mmetse ya ho ruta le ho ithuta e theilwe ho diketsahalo tsa dihlotshwana tse hlano tse potolohang bekeng e le nngwe. Dithuto di qala ka Mantaha mme di qetella ka Labohlano.



Refer to pages 82–93 of the *Concept Guide* to read more about organising your classroom for the daily Mathematics focus session.



Sheba maqephe ana 82–93 a *Tataiso ya Mareo* ho bala haholwanyane ka ho hlophisa phaposi ya hao ya borutelo bakeng sa karolo ya tsepamiso ya Mmetse wa letsatsi le letsatsi.

Session 2: Numbers, Operations and Relationships

2 hours

Term 1–4 content overview (CAPS)

(45 minutes)

Facilitator's notes

- ◆ PPT: *Concept Guide*, page 110/111, Figure 41 and summary on pages 110–113
- ◆ Refer participants to the *Concept Guide*, pages 114–137. Explain that this content overview provides the framework for all maths planning and will be used and referenced throughout the training.
- ◆ PPT: Discuss the table. Explain that the text in blue is from CAPS and the black text is content that has been added to build and extend CAPS in the Maths Programme.

The Maths Programme is aligned to and extends the content of the five Mathematics Content Areas of CAPS. The table on pages 114–137 of the *Concept Guide* provides a content overview of the maths to be taught in Grade R. It also shows what content is to be taught each term.

- ◆ The text in blue is the content from the CAPS for Grade R Mathematics.
- ◆ The text in black has been added to extend and build on CAPS.
- ◆ The topics are sequenced to show a developmental progression from one topic to the next.

Refer to pages 110–113 of the *Concept Guide* and read 1.1, 1.2 and 1.3 on pages 114–117. After reading numbers 1.1, 1.2 and 1.3, complete Activities 7 and 8.

Facilitator's notes

- ◆ Have participants complete **Activity 7** in their groups. Ask a person from each group to share their ideas.



Activity 2

Look through the Term 1–4 content overview for the Content Area: Numbers, Operations and Relationships, in the *Concept Guide* and in the CAPS document. In your group, discuss:

1. What does the Maths Programme add to the content of CAPS?

Karolo ya 2: Dinomoro, Matshwao le Dikamano

Dihora tse 2

Kotara ya 1–4 tjhebokakaretso ya dikahare (SLTK)

(Metsotso e 45)

Dinoutso tsa motsamaisi

- ◆ PPT: *Tataiso ya Mareo*, leqephe la 110/111, Setshwantsho sa 41 le kakaretso maqepheng a 110–113
- ◆ Ere bankakarolo ba ye ho *Tataiso ya Mareo*, maqephe a 114–137. Hlalosa hore tjhebokakaretso ena ya dikahare e fana ka moralo bakeng sa meralo yohle ya mmetse mme e tla sebediswa le ho lekolwa nakong yohle ya thupello.
- ◆ PPT: Buisanang ka tafole. Hlalosa hore mongolo o bolou o tswa ho SLTK mme mongolo o motsho ke dikahare tse ekeditsweng ho aha le ho atolosa SLTK ho Lenaneo la Mmetse.

Lenaneo la Mmetse le tsamaisana le ho atolosa dikahare tsa Dikarolo tsa Dikahare tsa Mmetse tse hlano tsa SLTK. Tafole e maqepheng ana 114–137 a *Tataiso ya Mareo* e fana ka tjhebokakaretso ya dikahare tsa mmetse tse lokelang ho rutwa Kereiting ya R. Hape e bontsha dikahare tse lokelang ho rutwa kotareng ka nngwe.

- ◆ Mongolo o bolou ke dikahare tse tswang ho SLTK bakeng sa Mmetse wa Kereiti ya R.
- ◆ Mongolo o motsho o kentswe ho atolosa le ho ahella ho SLTK.
- ◆ Dihlooho di hlahlamantswe ho bontsha kgatelopele ya ntshetsopele ho tloha sehloohong se seng ho ya ho se latelang.

Shebang ho maqephe ana 110–113 a *Tataiso ya Mareo* mme le bale 1.1, 1.2 le 1.3 ho maqephe 114–117. Kamora ho bala dinomoro 1.1, 1.2 le 1.3, phethelang Diketsahalo tsa 7 le 8.

Dinoutso tsa motsamaisi

- ◆ Ere bankakarolo ba phethele **Ketsahalo ya 7** dihlotshwaneng tsa bona. Kopa motho a le mong sehlotshwaneng ka seng ho bolela mehopolo ya bona.



Ketsahalo ya 2

Sheba tjhebokakaretso ya dikahare tsohle tsa Kotara ya 1–4 bakeng sa Karolo ya Dikahare: Dinomoro, Matshwao le Dikamano, ho *Tataiso ya Mareo* le ho tokomane ya SLTK. Sehlotshwaneng sa lona, buisanang ka:

1. Lenaneo la Mmetse le eketsa eng ho dikahare tsa SLTK?

Refer to the black text on pages 114–117 of the *Concept Guide*. Main content added: dot cards, multiple representations, structure beads, jumping track, number washing line, matching with number symbol/word, breaking down and building up collections, ordering of number symbols, ordinal numbers in everyday activities, orally solving problems, equal sharing.

2. What counting concepts are covered in Numbers, Operations and Relationships in Term 1?

Refer to the black text on pages 114–115 of the *Concept Guide*: one-to-one correspondence, estimation, matching, multiple representations, counting forwards 1–10, counting backwards 5–1.

Facilitator's notes

- ◆ Explain that during the workshops the focus is on the implementation of the Maths Programme and that participants need to understand the maths concepts themselves so that they are able to support their learners. This workshop provides an understanding of important concepts in Numbers, Operations and Relationships.

Important concepts in Numbers, Operations and Relationships

(1¼ hours)

Counting

Oral counting (rhythmic, rote or acoustic counting)

Facilitator's notes

- ◆ Ask participants to divide themselves into small groups of five and then to find an open space in the training room. Refer participants to **Activity 8** and let them say the rhyme, *One, two, three, four, five* (*Activity Guide: Term 1*, page 196) with actions.
- ◆ In their small groups, participants reflect on the activity and the counting skills they used and complete **Activity 8** and **9**.
- ◆ Ask the groups to report back on their discussions. List each new counting skill on the flipchart.
- ◆ Make sure that participants understand that oral counting involves memorising the names of numbers and does not mean that children can count.
- ◆ Read the information on oral counting below.
- ◆ Discuss the following terms: oral, rhythmic, rote and acoustic counting.
- ◆ PPT: such as: book, chair, dog, house.
- ◆ Explain that for learners the counting sequence of number names does not initially have any association with the concept of number, e.g. like: book, chair, dog, house, ... Learners gradually understand that each word stands alone in the sequence and that each word represents a specific number.

Sheba mongolo o motsho maqepheng a 114–117 a *Tataiso ya Mareo*. Dikahare tsa sehlooho di kentswe: dikarete tsa matheba, dikemelo tse fapaneng, difaha tsa sebopeho, tsela ya ho tlola, mola wa ho aneha dinomoro, ho nyalanya ka matshwao/mantswe a dinomoro, ho heletsisa le ho aha dipokello, ho bea ka tatelano matshwao a dinomoro, dinomoro tsa boemo, ho diketsahalo tsa kamehla, ho rarolla mathata ka molomo, ho arola ka ho lekana.

2. Ke mareo afe a ho bala a kenyeleditsweng ho Dinomoro, Matshwao le Dikamano Kotareng ya 1?

Shebang mongolo o motsho ho maqephe a 114–115 a *Tataiso ya Mareo*: neeletsano pakeng tsa ntho tse pedi, kakanyo, ho nyalanya, dikemelo tse fapaneng, ho bala ho ya pele 1–10, ho bala ho kgutlela morao 5–1.

Dinoutso tsa motsamaisi

- ◆ Hlalosa hore nakong ya diwekshopo tsepamo e ho ho kenngwa tshebetsong ha Lenaneo la Mmetse le hore bankakarolo ba lokela ho utlwisisa mareo a mmetse ka bobona ele hore ba tle ba kgone ho tshehetsa baithuti ba bona. Wekshopo ena e fana ka kutlwisiso ya mareo a bohlokwa ho Dinomoro, Matshwao le Dikamano.

Mareo a bohlokwa ho Dinomoro, Matshwao le Dikamano

(Dihora tse 1¼)

Ho bala

Ho bala ka molomo (ho bala ka morethetho, phetapheto kapa ka modumo)

Dinoutso tsa motsamaisi

- ◆ Kopa bankakarolo ho ikarola ka dihlotshwana tsa ba bahlano mme ba batle sebaka se bulehileng ka phaposing ya thupello. Ere bankakarolo ba ye ho **Ketsahalo ya 8** mme ba etse raeme, *Nngwe, pedi, tharo, nne, hlano* (*Tataiso ya Diketsahalo: Kotara ya 1*, leqephe la 197) mmoho le diketso.
- ◆ Dihlotshwaneng tsa bona, bankakarolo ba sekaseka ketsahalo le bokgoni ba ho bala boo ba bo sebedisitseng mme ba phethela **Ketsahalo ya 8** le ya **9**.
- ◆ Kopa dihlotshwana ho tlaleha mabapi le dipuisano tsa bona. Ngola lenaneng bokgoni ka bong ba ho bala hodima fliptjhate.
- ◆ Etsa bonnete ba hore bankakarolo ba utlwisisa hore ho bala ka molomo ho kenyeletsisa ho ithuta mabitso a dinomoro ka hlooho mme ha ho bolele hore bana ba tseba ho bala.
- ◆ Bala tlhahisoleseding e mabapi le ho bala ka molomo ka tlase mona.
- ◆ Buisana ka mareo a latelang: ho bala ka molomo, ka morethetho, phetapheto le modumo.
- ◆ PPT: jwaloka: buka, setulo, ntja, ntlo.
- ◆ Hlalosa hore ho baithuti tatelano ya ho bala ya mabitso a dinomoro ha e qale ka ho ba le kamaano efe kapa efe le mohopolo wa nomoro, mohl. jwaloka: buka, setulo, ntja, ntlo, ... Baithuti butlebutle ba utlwisisa hore lentswe ka leng le eme le ikemetse ho tatelano le hore lentswe ka leng le emetse nomoro e itseng.

Oral counting involves a learner memorising the names and counting order of numbers, often in a rhyme or song.

In Grade R learners learn the correct order of number names and repeat the sequence daily. The purpose of counting out loud is to help learners understand that when we count aloud there is a set order for the numbers: beginning at one, then two, three, four, etc. Initially learners do not fully understand the meaning of the number names and might skip numbers in a counting sequence. Reciting a rhyme or series of numbers orally means repeating the number names from memory. Even when learners count in steps of two, five and ten they are using their knowledge of this number order. Memorising number names and repeating them in the correct counting order does not necessarily mean that learners can count. This is different from counting to find out 'how much'.

Arrange yourselves into small groups of five and find an open space in the training room for the next activity.



Activity 3

1. In your small groups, say the rhyme, *One, two, three, four, five*, with actions.

One, two, three, four, five

One, two, three, four, five
Once I caught a fish alive.
'Why did you let it go?'
Because it bit my finger so.
One, two, three, four, five
Then I caught a frog alive.
'What did you do with that?'
I said hello and put it back.

2. Do you think using a rhyme like this one is good practice for teaching counting in Grade R? Give reasons for your answer.

Refer to pages 76 and 196 of *Activity Guide: Term 1* for this rhyme.

Ho bala ka molomo ho kenyeletsa moithuti a ithuta ka hlooho mabitso mme a bala dinomoro ka tatelano, hangata raemeng kapa pineng.

Kereiting ya R baithuti ba ithuta tatelano e nepahetseng ya mabitso a dinomoro mme ba pheta tatelano eo letsatsi le letsatsi. Sepheo sa ho balla hodimo ke ho thusa baithuti ho utlwisisa hore ha re balla hodimo ho ba le tatelano e beilweng bakeng sa dinomoro: ho qalwa ka nngwe, ebe pedi, tharo, nne, jj. Qalong baithuti ha ba utlwisise ka botlalo moelelo wa mabitso a dinomoro mme ba ka tlola dinomoro tatelanong ya ho bala. Ho etsa raeme kapa letoto la dinomoro ka molomo ho bolela ho pheta mabitso a dinomoro ka ho a hopola. Esitana le ha baithuti ba bala ka mehato ya pedi, hlano le leshome ba sebedisa tsebo ya bona ya tatelano ena ya dinomoro. Ho ithuta mabitso a dinomoro ka hlooho le ho a pheta ka tatelano e nepahetseng ha ho bolele hore baithuti ba tseba ho bala dinto. Sena se fapane ho ho bala ho fumana hore 'di kae'.

Itlhophiseng ka dihlotshwana tsa ba bahlano mme le batle sebaka se bulehileng ka phaposing ya thupello bakeng sa ketsahalo e latelang.



Ketsahalo ya 3

1. Dihlotshwaneng tsa lona, etsang raeme ena, *Nngwe, pedi, tharo, nne, hlano* mmoho le diketso.

Nngwe, pedi, tharo, nne, hlano

Nngwe, pedi, tharo, nne, hlano

Nkile ka tshwasa tlhapi e phela.

'O ile wa e tlohellang jwale?'

Hobane e ntomme menwana jwalo.

Nngwe, pedi, tharo, nne, hlano

Yaba ke tshwara senqanqane se phela.

'O ile wa etsa eng ka sona?'

Ka se dumedisa yaba ke se kgutlisetsa morao.

2. Na o nahana hore ho sebedisa raeme e tshwanang le ena ke boikwetliso bo botle bakeng sa ho ruta ho bala Kereiting ya R? Fana ka mabaka bakeng sa karabo ya hao.

Sheba leqephe la 77 le la 197 la *Tataiso ya Diketsahalo: Kotara ya 1* bakeng sa raeme ena.



Activity 4

In the same small groups, answer these questions:

1. What would learners learn by saying this rhyme?

2. What do learners learn when they repeat a sequence of numbers in the correct counting order?

Count in ones in the correct order.

Sequence of the counting numbers.

Correct number words.

Distinguish the number words.

Helps with memorising the sequence of counting order.

Counting objects (rational counting)

Facilitator's notes

- ◆ Demonstrate how to count objects using one-to-one correspondence.
- ◆ Ask participants to take two handfuls of counters from the *Resource Kit* equipment in the tub on their table and place them in front of them. Ask them to say which pile has more/fewer counters. Ask participants how they can determine this without counting. Prompt them to match the elements in each group one-to-one in order to say which group has more/less.
- ◆ Ask participants to count the items in each group to find out which has more/fewer.
- ◆ Ask participants what vocabulary was used, e.g. count, one, two, three ..., how many, more, fewer, group.
- ◆ Read the information about counting objects (rational counting) below.
- ◆ Make sure that participants understand the difference between oral counting and counting objects:
 - **Oral counting** involves memorising and sequencing number words.
 - **Counting objects** involves matching a number word to each object being counted and understanding that the last number said represents the total number counted (how many).



Ketsahalo ya 4

Dihlotshwaneng tsona tseo, arabang dipotso tsena:

1. Baithuti ba ka ithuta eng ka ho etsa raeme ena?

2. Baithuti ba ithuta eng ha ba pheta tatelano ya dinomoro ka tatelano e nepahetseng ya ho bala?

Bala ka bonngwe ka tatelano e nepahetseng.

Tatelano ya dinomoro tsa ho bala.

Mantswe a dinomoro a nepahetseng.

Hlwaya mantswe a dinomoro.

Ho ba thusa ka ho bala ka hlooho tlhophiso ya ho bala ka tatelano.

Ho bala dintho (ho bala ka dinomoro)

Dinoutso tsa motsamaisi

- ◆ Bontsha tsela ya ho bala dintho o sebedisa neeletsano pakeng tsa ntho tse pedi.
- ◆ Kopa bankakarolo ho nka dibadi tse tlang diatla tse pedi ho disebediswa tsa Khiti ya Disebediswa ka hara setshelo hodima tafole ya bona mme ba di bee kapela bona. Ere ba bolele hore ke qubu efe e nang le dibadi tse ngata/mmalwa ho feta. Botsa bankakarolo hore ba ka tseba sena jwang ntle le ho di bala. Ba kgothale tse ho nyalanya dintho sehlotshwaneng ka seng e le nngwe ho e nngwe ele hore ba bone hore ke sehlopha sefe se nang le tse ngata/mmalwa ho feta.
- ◆ Kopa bankakarolo ho bala dintho sehlopheng ka seng ho fumana hore ke sefe se nang le tse ngata/mmalwa ho feta.
- ◆ Botsa bankakarolo hore ke tlotlontswe efe e sebedisitsweng, mohl. bala, nngwe, pedi, tharo ..., tse kae, ngata ho feta, mmalwa ho feta, sehlopha.
- ◆ Bala tlhahisoleseding e mabapi le ho bala dintho (ho bala ka dinomoro) ka tlase mona.
- ◆ Etsa bonnete ba hore bankakarolo ba utlwisisa phapang pakeng tsa ho bala ka molomo le ho bala dintho:
 - **Ho bala ka molomo** ho kenyeletsa ho bala ka hlooho le ho hlahlamanya mantswe a dinomoro.
 - **Ho bala dintho** ho kenyeletsa ho nyalanya lentse la nomoro le ntho ka nngwe e balwang le ho utlwisisa hore nomoro ya ho qetela e bitsitsweng e emetse lenane lohle la tse badilweng (tse kae).

Counting objects involves one-to-one correspondence. This means that each object or event to be counted is matched with a number word. To count 'how many', learners need to realise that each object in a collection gets a number word ('one, two, three, four ...') and that you count each object only once.

Once learners know the order of the counting numbers, they begin to understand that each number in the counting sequence is one bigger than the number before and one smaller than the next number. They:

- ◆ can mentally compare numbers and see that two is one more than one and that three is one more than two.
- ◆ realise that numbers grow by one each time.
- ◆ realise that any number in the counting sequence is exactly one more than the previous number.

Facilitator's notes

- ◆ Explain to participants that learners do not learn number concepts and skills in isolation. They need daily experiences with number in different contexts that involve oral counting, counting objects and representing a number in different ways.
- ◆ Emphasise that learners are not required to write number symbols in Grade R. Learning to write number symbols should be regarded the same way as Emergent Writing. Refer to Numbers, Operations and Relationships in the CAPS document and to pages 114–117 of the *Concept Guide*.



Video 3

Activity Guide: Term 1, Week 2, Teacher-guided activity #2, 3 (page 46/47)

Watch the video of learners counting a collection of objects. This is a teacher-guided activity. Notice how the teacher observes each learner and asks questions to prompt them to share their ideas.

Ho bala dintho ho kenyeletsa neeletsano pakeng tsa ntho tse pedi. Sena se bolela hore ntho kapa ketsahalo ka nngwe e lokelang ho balwa e nyalanngwa le lentswe la nomoro. Ho bala 'tse kae', baithuti ba hloka ho lemoha hore ntho ka nngwe pokellong e fumana lentswe la nomoro ('nngwe, pedi, tharo, nne...') le hore o bala ntho ka nngwe hanngwe feela.

Hang ha baithuti ba se ba tseba tatelano ya ho bala dinomoro, ba qala ho utlwisisa hore nomoro ka nngwe tlhahlamang ya ho bala e kgolo ka nngwe ho nomoro e tlileng pele ho yona mme e nyane ka nngwe ho nomoro e e hlahlamang. Ba:

- ◆ ka bapisa ka kelellong dinomoro mme ba bona hore pedi e feta nngwe ka nngwe le hore tharo e feta pedi ka nngwe.
- ◆ lemoha hore dinomoro di hola ka nngwe nako le nako.
- ◆ lemoha hore nomoro efe kapa efe tatelanong ya ho bala e kgolo hantle feela ka nngwe ho nomoro e tlileng pele.

Dinoutso tsa motsamaisi

- ◆ Hlalosetsa bankakarolo hore baithuti ha ba ithute mehopollo ya dinomoro le bokgoni ka ho qolleha. Ba hloka ho kopana le dintho bophelong tse nang le dinomoro maemong a fapaneng tse kenyeletsang ho bala ka molomo, ho bala dintho le ho emela nomoro ka ditsela tse fapaneng.
- ◆ Hatella hore baithuti ha ba hloke ho ngola matshwao a dinomoro Kereiting ya R. Ho ithuta ho ngola matshwao a dinomoro ho lokela ho nkuwa ka tsela e tshwanang le ya Ho Ngola ho Holang. Sheba ho Dinomoro, Matshwao le Dikamano tokomaneng ya SLTK le ho maqephe ana 114–117 a *Tataiso ya Mareo*.



Video ya 3

Tataiso ya Diketsahalo: Kotara ya 1, Beke ya 2, Ketsahalo e tataiswang ke titjhere #2, 3 (leqephe la 46/47) Shebellang video ya baithuti ba balang pokello ya dintho. Ena ke ketsahalo e tataiswang ke titjhere. Lemoha kamoo titjhere a shebellang moithuti ka mong mme a botsa dipotso ho ba kgothaletsa ho abelana ka mehopollo ya bona.

Representing numbers

Facilitator's notes

- ◆ Say to participants: *Show me five.*
- ◆ Participants will most likely hold up five fingers. Explain that the concept or idea of a number is in our heads and that we cannot see numbers. We can't see them, but we can represent them in different ways, for example, using fingers, counters, claps, birthday candles. We represent numbers to show 'how many'.
- ◆ Ask participants to think about the different ways to represent a number and ask them to complete **Activity 10** individually. Then ask participants to share their ideas.
- ◆ Use the information below to summarise how learners begin to represent numbers.



Activity 5

How many different ways can you find to represent the number 5?

Learners begin to represent numbers using their fingers, and then gradually start to use other methods, such as objects, drawings, pictures or symbols. Learners progress:

- ◆ from using actual objects to represent (stand in for) numbers, e.g. lemons, sweets, pencils, leaves
- ◆ to using pictures or drawings to represent the objects, e.g. a drawing of a lemon, person, car
- ◆ to using counters to represent the objects or pictures, e.g. plastic discs to show the number of lemons
- ◆ to using marks to represent the physical objects and pictures, e.g. circles, dots, tally marks, clapping sounds, drumbeats, stamping feet
- ◆ to using number symbols and number words, e.g. '2' or 'two'.

Facilitator's notes

- ◆ PPT: Explain that the Maths Programme uses an approach of teaching one number at a time and follows the same routine for each number taught. Summarise the text below to provide a brief outline of the routine.
- ◆ Tell the *Number 1 story* on page 196 of *Activity Guide: Term 1*.

Ho emela dinomoro

Dinoutso tsa motsamaisi

- ◆ Ere ho bankakarolo: *Mpontshe hlano*.
- ◆ Bankakarolo hangata ba tla phahamisa menwana e mehlano. Ba hlalose hore mohopolo wa nomoro o ka dihloohong tsa rona le hore ha re bone dinomoro. Re keke ra di bona, empa re ka di emela ka ditsela tse fapaneng, ho etsa mohlala, ka ho sebedisa menwana, dibadi, ho opa, dikerese tsa letsatsi la tswalo. Re emela dinomoro ho bontsha hore 'dintho di kae'.
- ◆ Kopa bankakarolo ho nahana ka ditsela tse fapaneng tsa ho emela nomoro mme o ba kope ho qetella **Ketsahalo ya 10** ka bomong. Jwale kopa bankakarolo ho abelana ka mehopollo ya bona.
- ◆ Sebedisa tlhahisoleseding e ka tlase mona ho akaretsa kamoo baithuti ba qalang ho emela dinomoro.



Ketsahalo ya 5

Ke ditsela tse kae tse fapaneng tseo o ka di fumanang ho emela nomoro ya 5?

Baithuti ba qala ho emela dinomoro ka ho sebedisa menwana ya bona mme ebe butlebutle ba qala ho sebedisa mekgwa e meng, jwaloka dintho, metako, ditshwantsho kapa matshwao. Baithuti ba hatela pele:

- ◆ ho tloha ho sebediseng dintho tsa nnete (ho ema sebakeng sa) dinomoro, mohl. disirilamunu, dipompong, dipentshele, mahlaku
- ◆ ho isa ho sebediseng ditshwantsho kapa metako ho emela dintho, mohl. motako wa sirilamunu, motho, kolo
- ◆ ho sebediseng dibadi ho emela dintho kapa ditshwantsho, mohl. didiski tsa polastiki ho bontsha palo ya disirilamunu
- ◆ ho sebediseng matshwao ho emela dintho tse tshwarehang le ditshwantsho, mohl. didikadikwe, matheba, matshwao a ho lekanya medumo ya ho opa matsoho, ho otlala meropa, ho tla ka maoto
- ◆ ho sebediseng matshwao a ngotsweng a dinomoro le mantswe a dinomoro, mohl. '2' kapa 'pedi'.

Dinoutso tsa motsamaisi

- ◆ PPT: Hlalosa hore Lenaneo la Mmetse le sebedisa mekgwa wa ho ruta nomoro e le nngwe ka nako mme le latela tlwaelo e jwalo bakeng sa nomoro ka nngwe e rutwang. Akaretsa mongolo o ka tlase mona ho fana ka tlhaloso e kgutshwane ya tlwaelo eo.
- ◆ Pheta *Pale ya Nomoro ya 1* e leqepheng la 197 la *Tataiso ya Diketsahalo: Kotara ya 1*.

- ◆ Retell the story, this time involving the participants in dramatising the story as you tell it, e.g. by moving like elephants, painting the number 1 on the roof of the house, smelling one flower, flying around like one bird.
- ◆ Demonstrate different number representations by displaying the house template on the wall of the training room and re-telling the *Number 1 story*. Exaggerate 'one' each time it occurs in the story, e.g. one bird, one tree, one bench, one flower, one cloud, one door, one doorbell. Place the number 1 frieze cards in the house template as you progress through the story:
 - the animal (picture)
 - the number symbol (1)
 - the dot (doorbell)
 - the number word (one).

The Maths Programme uses an approach that introduces numbers 0–10 one at a time and follows the same teaching routine for each number.

- ◆ A story is told about the number. This raises learners' interest and provides a familiar, fun context that connects with learners' lives and interests.
- ◆ Each number has a particular animal character. The story featuring the animal is used to build a number frieze to represent the number.
- ◆ Dramatising the story provides opportunities for learners to respond kinaesthetically (learning through acting and moving their bodies).
- ◆ Objects are collected to represent the number in various ways. The objects are put in the maths area.
- ◆ Learners match objects to pictures, dot cards, number symbols and number words.
- ◆ The *Poster Book* provides real-life contexts to stimulate discussion and encourage problem solving.

The number 'one' is introduced in the second week of Term 1 to familiarise learners with this routine. The same routine is used as each new number is introduced, adding one more to the number the learners learnt previously.

Before completing the next activity, interact with the facilitator as she tells the story for number 1 and builds up the number frieze using the house template and animal frieze cards. After listening to the story, complete Activity 11.

Facilitator's notes

- ◆ After the demonstration, ask participants to complete **Activity 11**.
- ◆ Allow participants to discuss the question in small groups and then to share their ideas in the big group.
- ◆ Reflect on the vocabulary used during the activity, e.g. one, number, number symbol, number name, number word, how many, group, collection, count, the same.

- ◆ Pheta pale hape, kgetlong lena o kenyeletsa bankakarolo ho tshwantshisa pale ha o ntse o e pheta, mohl. ka ho tsamaya jwaloka ditlou, ba penta nomoro ya 1 marulelong a ntlo, ho fofonela palesa, ho fofa jwaloka nonyana e le nngwe.
- ◆ Bontsha dikemelo tse fapaneng tsa dinomoro ka ho bea thempleiti ya ntlo leboteng la phaposi ya thupello le ho pheta hape *Pale ya Nomoro ya 1*. Hatella 'nngwe' nako le nako ha e hlahella paleng, mohl. nonyana e le nngwe, sefate se le seng, banka e le nngwe, palesa e le nngwe, leri le leng, lemati le leng, tshepe e le nngwe ya monyako. Bea karete ya frizi ya nomoro ya 1 ka hara thempleiti ya ntlo ha o ntse o tswela pele ka pale:
 - phoofolo (setshwantsho)
 - letshwao la nomoro (1)
 - letheba (tshepe ya monyako)
 - lentswe la nomoro (nngwe).

Lenaneo la Mmetse le sebedisa mokgwa o tsebisang dinomoro 0–10 e le nngwe ka nako mme le latela tlwaelo yona eo ya ho ruta bakeng sa nomoro ka nngwe.

- ◆ Ho phetwa pale e mabapi le nomoro. Sena se phahamisa tjantjello ya baithuti mme se fana ka tikoloho e tlwaelehileng, e natefelang e hokelang maphelo a baithuti le ditabatabelo tsa bona.
- ◆ Nomoro ka nngwe e na le mophetwa ya itseng wa phoofolo. Pale e nang le phoofolo e sebediswa ho aha frizi ya nomoro ho emela nomoro eo.
- ◆ Ho tshwantshisa pale ho fana ka menyetla bakeng sa baithuti ho arabela ka diketso le mmele (ho ithuta ka ho tshwantshisa le ho tsamaisa mmele ya bona).
- ◆ Dintho di bokellwa ho emela nomoro ka ditsela tse fapaneng. Dintho di bewa sebakeng sa mmetse.
- ◆ Baithuti ba nyalanya dintho le ditshwantsho, dikarete tsa matheba, matshwao a dinomoro le mantswe a dinomoro.
- ◆ *Buka ya Diphoustara* e fana ka ditikoloho tsa bophelo ba nnete ho tsosolosa puisano le ho kgothaletsa ho rarolla bothata.

Nomoro ya 'nngwe' e tsebiswa bekeng ya bobedi ya Kotara ya 1 ho tlwaetsa baithuti tlwaelo ena. Tlwaelo yona eo e a sebediswa ha nomoro e ntjha e tsebiswa, ho eketswa nngwe nomorong eo baithuti ba ithutileng yona pele.

Pele le phethela ketsahalo e latelang, kopanang le motsamaisi ha a ntse a pheta pale bakeng sa nomoro ya 1 mme a aha frizi ya nomoro a sebedisa thempleiti ya ntlo le dikarete tsa frizi ya phoofolo. Kamora ho mamela pale ena, phethelang Ketsahalo ya 11.

Dinoutso tsa motsamaisi

- ◆ Kamora pontsho, kopa bankakarolo ho phethela **Ketsahalo ya 11**.
- ◆ Dumella bankakarolo ho buisana ka potso dihlotshwaneng tsa bona mme ebe ba abelana ka mehopholo ya bona sehlopheng se sehlo.
- ◆ Buang ka tlotlontswe e sebedisitsweng nakong ya ketsahalo, mohl. nngwe, nomoro, letshwao la nomoro, lebitso la nomoro, lentswe la nomoro, tse kae, sehlopha, pokello, bala, e tshwanang.



Activity 6

What are the different ways that the number 1 was represented in the story?

Picture, dot, number symbol, number word



Ketsahalo ya 6

Ke ditsela dife tse fapaneng tseo nomoro ya 1 e neng e emetswe ka tsona paleng?

Setshwantsho, letheba, letshwao la nomoro, lentswe la nomoro

Session 3: Implementing the five-group teaching model

2 hours

We have already discussed how to organise your classroom for maths teaching and learning during Mathematics focus time. This section outlines how to plan and implement the Maths Programme and focuses on preparing for the teaching of Weeks 1 and 2 of Term 1.

Term 1 Content Summary (Weeks 1–2)

(1 hour)

Facilitator's notes

- ◆ PPT: Daily Mathematics focus time (*Concept Guide*, page 82, Figure 33) and Week 1 of Appendix B.
- ◆ Refer participants to Week 1 of Appendix B: Term 1 Weekly Content Summary (Weeks 1–2). Explain that the Weekly Content Summary provides a summary of the maths content for each week. Explain that this framework was developed and then the content of the *Activity Guides* was written.
- ◆ Outline the different features of the week. Read the whole class activities, teacher-guided activity and independent small group (workstation) activities. Have participants work in groups to complete **Activity 12**.
- ◆ Focus on the structure of the Weekly Content Summary:
 - Content Area, Topic, New knowledge, Practise
 - Whole class activities: done with all the learners, activities linked to the Content Area and Topic, involves a routine that includes rhymes/songs, oral counting and counting objects.
 - Teacher-guided small group activity: focuses specifically on the concepts to be taught, involves a small group of six to eight learners.
 - Independent small group (workstation) activities: provide practice and consolidation of the concept being introduced in the whole class and teacher-guided activities.
- ◆ Explain that the Weekly Content Summary provides a structure and framework for planning the Mathematics focus time each week.

Appendix B: Term 1 Weekly Content Summary (Weeks 1–2) provides a summary of the content and offers suggestions for teaching and learning maths for each week with the following information:

- ◆ main Content Area Focus for the week
- ◆ topic(s) to be covered
- ◆ New knowledge and Practise focus for the week
- ◆ suggested activities for whole class and small groups (teacher-guided activity and workstation activities) for the week.

Karolo ya 3: Ho kenya tshebetsong mmotlolo wa ho ruta wa dihlopha tse hlano

Dihora tse 2

Re se re buisane ka tsela tsa ho hlophisa phaposi ya hao ya borutelo bakeng sa ho ruta mmetse le ho ithuta nakong ya tsepamiso ya Mmetse. Karolo ena e hlalosa kamoo ho ralwang le ho kenya tshebetsong Lenaneo la Mmetse mme e tsepame ho ho lokisetsa ho ruta ha Dibeke tsa 1 le 2 tsa Kotara ya 1.

Kotara ya 1 Kakaretso ya Dikahare (Dibeke tsa 1-2)

(Hora e 1)

Dinoutso tsa motsamaisi

- ◆ PPT: Nako ya tsepamiso ya Mmetse wa Letsatsi le letsatsi (*Tataiso ya Mareo*, leqephe la 883, Setshwantsho sa 33) le Beke ya 1 ya Sehloothiso B.
- ◆ Romela bankakarolo ho Beke ya 1 ya Sehloothiso B: Kotara ya 1 Kakaretso ya Dikahare tsa Beke le beke (Dibeke tsa 1-2). Hlalosa hore Kakaretso ya Dikahare tsa Beke le beke e fana ka kakaretso ya dikahare tsa mmetse bakeng sa beke ka nngwe. Hlalosa hore moralo ona o ile wa botjwa mme yaba dikahare tsa *Tataiso ya Diketsahalo* di a ngolwa.
- ◆ Rala makgetha a fapaneng a beke. Bala diketsahalo tsa tlelase yohle, ketsahalo e tataiswang ke titjhere le diketsahalo tsa dihlotshwana tse ikemetseng (seteishene sa tshebetsong). Ere bankakarolo ba sebetse ka dihlopha ho phethela **Ketsahalo ya 12**.
- ◆ Tsepamisa maikutlo ho sebopeho sa Kakaretso ya Dikahare tsa Beke le beke:
 - Karolo ya Dikahare, Sehlooho, Tsebo e Ntjha, Tshebetsong
 - Diketsahalo tsa tlelase yohle: di etswa le baithuti bohle, diketsahalo tse hokantsweng ho Karolo ya Dikahare le Sehlooho, di kenyeletsa tlwaelo e kenyeletsang diraeme/dipina, ho bala ka molomo le ho bala dintho.
 - Ketsahalo ya dihlotshwana e tataiswang ke titjhere: e tsepame haholoholo ho dikgopolo tse lokelang ho rutwa, e kenyeletsa sehlotshwana sa baithuti ba tshelletseng ho isa ho ba robedi.
 - Diketshalo tsa dihlotshwana tse ikemetseng (seteishene sa tshebetsong): di fana ka kwetliso le kgobokanyo ya lereo le tsebiswang diketsahalong tsa tlelase yohle le tse tataiswang ke titjhere.
- ◆ Hlalosa hore Kakaretso ya Dikahare tsa Beke le beke e fana ka sebopeho le moralo bakeng sa ho rera nako ya tsepamiso ya Mmetse beke ka nngwe.

Sehloothiso B: Kotara ya 1 Kakaretso ya Dikahare tsa Beke le Beke (Dibeke tsa 1-2) e fana ka kakaretso ya dikahare mme e fana ka ditlhahiso bakeng sa ho ruta le ho ithuta mmetse bakeng sa beke ka nngwe ka tlhahisoleseding e latelang:

- ◆ Tsepamiso ya Karolo ya Dikahare ya sehlooho bakeng sa beke
- ◆ (se)dihlooho tse lokelang ho kenyeletswa
- ◆ tsepamiso ya Tsebo e ntjha le Tshebetsong bakeng sa beke
- ◆ diketsahalo tse hlahisitsweng bakeng sa tlelase yohle le dihlotshwana (ketsahalo e tataiswang ke titjhere le diketsahalo tsa diteisheneng tsa tshebetsong) bakeng sa beke.

Read whole class activities, teacher-guided activity and workstation activities in Appendix B: Term 1 Weekly Content Summary (Weeks 1–2).



Activity 7

Look at Appendix B: Term 1 Weekly Content Summary (Weeks 1–2). Answer the questions.

Questions	Week 1	Week 2
What is the Content Area Focus for the week?	Numbers, Operations and Relationships	Numbers, Operations and Relationships
What are the key concepts that learners will be learning?	Oral counting Counting objects	Number symbols Number words
What new knowledge is introduced?	Oral counting 1–5 Counting objects 1–3 One-to-one correspondence Sequencing events	Number 1 Solving problems in everyday contexts
What skills are being practised in Week 2?		Oral counting 1–5 Counting objects 1–3 Vocabulary from Week 1

Facilitator's notes

- ◆ PPT: Briefly review the five-group teaching model and how the Maths Programme's focus time activities are organised (whole class, small group and free choice activities).
- ◆ Remind participants that the focus is on one concept/topic at a time from one Content Area.

Activity Guide: Term 1

Facilitator's notes

- ◆ Explain that *Activity Guide: Term 1* provides teachers with weekly suggestions for teaching maths in Grade R.
- ◆ PPT: Features of *Activity Guide: Term 1* (*Activity Guide: Term 1*, page 6/7).
- ◆ Explain that the next activity will give participants an opportunity to learn more about *Activity Guide: Term 1*.
- ◆ Let participants work in small groups to complete **Activity 13** and then share their responses with the large group.
- ◆ Make links between *Activity Guide: Term 1* and the Weekly Content Summary.

Bala diketsahalo tsa tlelase yohle, ketsahalo e tataiswang ke titjhere le diketsahalo tsa diteisheneng tsa tshebetso ho Sehlomathiso B: Kotara ya 1 Kakaretso ya Dikahare tsa Beke le Beke (Dibeke tsa 1-2).



Ketsahalo ya 7

Sheba ho Sehlomathiso B: Kotara ya 1 Kakaretso ya Dikahare tsa Beke le Beke (Dibeke tsa 1-2). Araba dipotso.

Dipotso	Beke ya 1	Beke ya 2
Tsepamiso ya Karolo ya Dikahare ke efe bakeng sa beke ena?	Dinomoro, Matshwao le Dikamano	Dinomoro, Matshwao le Dikamano
Mareo a sehlooho ke afe ao baithuti ba tla beng ba ithuta ona?	Ho bala ka molomo Ho bala dintho	Matshwao a dinomoro Mantswe a dinomoro
Ke tsebo efe e ntjha e tla tsebiswa?	Ho bala ka molomo 1-5 Ho bala dintho 1-3 Neeletsano pakeng tsa ntho tse pedi Tatelano ya diketsahalo tsa letsatsi le letsatsi	Nomoro ya 1 Ho rarolla mathata tikolohong ya kamehla
Ke bokgoni bofe bo ikwetliswang Bekeng ya 2?		Ho bala ka molomo 1-5 Ho bala dintho 1-3 Tlotlontswe ho tswa Bekeng ya 1

Dinoutso tsa motsamaisi

- ◆ PPT: Ka bokgutshwanyane hlahloba mmotlolo wa ho ruta wa dihlopha tse hlano le kamoo diketsahalo tsa nako ya tsepamiso ya Lenaneo la Mmetse di hlophiswang ka teng (diketsahalo tsa tlelase yohle, tsa dihlotshwana le tsa kgetho ya bolokolohi).
- ◆ Hopotsa bankakarolo hore tsepamo e ho lereo/sehlooho se le seng ka nako ho tswa ho Karolo ya Dikahare e le nngwe.

Tataiso ya Diketsahalo: Kotara ya 1

Dinoutso tsa motsamaisi

- ◆ Hlalosa hore *Tataiso ya Diketsahalo: Kotara ya 1* e fa matitjhere ditlhahiso tsa beke le beke bakeng sa ho ruta mmetse Kereiting ya R.
- ◆ PPT: Makgetha a *Tataiso ya Diketsahalo: Kotara ya 1* (*Tataiso ya Diketsahalo: Kotara ya 1*, leqephe la 6/7).
- ◆ Hlalosa hore ketsahalo e latelang e tla fa bankakarolo monyetla wa ho ithuta haholwanyane ka *Tataiso ya Diketsahalo: Kotara ya 1*.
- ◆ Ere bankakarolo ba sebetse ka dihlotshwana ho phethela **Ketsahalo ya 13** ebe ba abelana dikarabelo tsa bona le sehlopha se sehlo.
- ◆ Etsa dikgokahano pakeng tsa *Tataiso ya Diketsahalo: Kotara ya 1* le Kakaretso ya Dikahare tsa Beke le beke.

The *Activity Guides* provide Grade R teachers with a structure and framework and offer weekly suggestions for maths teaching and learning.

Refer to Weeks 1 and 2 in *Activity Guide: Term 1* and the Weekly Content Summary in Appendix B. Complete Activity 13 in your group.



Activity 8

1. Look at *Activity Guide: Term 1* and add the information to the table.

Race around <i>Activity Guide: Term 1</i>	
What is on pages 6, 8 and 10?	
On which page is the 'Our classroom rules' poster?	
On which pages is the content overview for Term 1?	
What information is at the start of each new week?	
Find the <i>Grade R Maths family story</i> .	
Which song is introduced in Week 2?	
Find where number 1 is introduced.	
Find a whole class activity that focuses on oral counting.	
Find a teacher-guided activity that focuses on one-to-one correspondence.	
Find a workstation activity that focuses on consolidating the number concept '1'.	

2. Refer to the whole class activities, teacher-guided activity and workstation activities in Appendix B. Find these activities in *Activity Guide: Term 1*.



In Grade R assessment is informal and continuous. We need to observe learners throughout the day, inside and outside the classroom.

The Maths Programme is designed around the rotation of small groups during a week and the teacher pays special attention to one group a day, watching and listening as the learners complete specific tasks. This time gives the teacher the opportunity to carefully observe each learner and gather information on their progress.

Ditataiso tsa Diketsahalo di fa matitjhere a Kereiti ya R sebopelo le moralo mme di fana ka ditlhahiso tsa beke le beke bakeng sa ho ruta le ho ithuta mmetse.

Shebang ho Dibeke tsa 1 le 2 ho *Tataiso ya Diketsahalo: Kotara ya 1* le Kakaretso ya Dikahare tsa Beke le beke ho Sehlomathiso B. Phethelang Ketsahalo ya 13 sehlotshwaneng sa lona.



Ketsahalo ya 8

1. Shebang ho *Tataiso ya Diketsahalo: Kotara ya 1* mme le eketse tlhahisoleseding ho tafole.

<i>Tataiso ya Diketsahalo tsa ho Matha hohle: Kotara ya 1</i>	
Ke eng e maqepheng a 7, 9 le 11?	
Phoustara ya 'Melawana ya phaposi ya rona ya borutelo e ka leqepheng lefe?	
Ke maqepheng afe moo ho nang le tlhahlobo ya dikahare bakeng sa Kotara ya 1?	
Ke tlhahisoleseding efe e qalong ya beke ka nngwe e ntjha?	
Batla <i>Pale ya lelapa ya Mmetse wa Kereiti ya R</i> .	
Ke pina efe e tsebiswang Bekeng ya 2?	
Fumana moo nomoro ya 1 e tsebiswang.	
Fumana ketsahalo ya tlelase yohle e tsepameng ho ho bala ka molomo.	
Fumana ketsahalo e tataiswang ke titjhere e tsepameng ho neeletsano pakeng tsa ntho tse pedi.	
Fumana ketsahalo ya seteishene sa tshebetso e tsepameng ho kgobokanyo ya kgopolo ya nomoro ya '1'.	

2. Shebang diketsahalo tsa tlelase yohle, ketsahalo e tataiswang ke titjhere le diketsahalo tsa diteishene tsa tshebetso ho Sehlomathiso B. Fumana diketsahalo tsena ho *Tataiso ya Diketsahalo: Kotara ya 1*.



Kereiting ya R tekanyetso ha e a hlophiswa mme e a tswella. Re lokela ho shebella baithuti letsatsi lohle ka hare le kante ho phaposi ya borutelo.

Lenaneo la Mmetse le radilwe ho ya ka potoloho ya dihlotshwana hara beke mme titjhere o shebana ka ho qolleha le sehlotshwana se le seng ka letsatsi, a shebile le ho mamela baithuti ha ba phetha mesebetsi e itseng. Nako ena e fa titjhere monyetla wa ho shebella ka hloko moithuti ka mong le ho bokella tlhahisoleseding e mabapi le kgatelopele ya hae.

Look at the shaded block at the end of the teacher-guided activity in Week 2: **‘Check that learners are able to’**. The eye icon reminds us that we need to observe the learners while they are busy, and we need to listen carefully while they are talking to us and to their peers.

The teacher makes a mental note of each learner and once the learners have left for the day, she writes down her observations in a dedicated observation book that has space for each learner’s notes.

Poster Book and Resource Kit

(10 minutes)

Facilitator’s notes

- ◆ Explain that the *Resource Kit* apparatus will be used during teacher-guided activities and that there is enough apparatus for a small group of six to eight learners. Remind participants of the contents of the *Resource Kit* and show them the following pieces of apparatus and discuss how each will be used:
 - counting materials: coloured discs and sticks, fruit and animal counters, Unifix blocks
 - dice
 - structure beads
 - number cards (number symbols and number words)
 - attribute blocks.
- ◆ Show participants the *Poster Book* and explain that there are activities in the *Activity Guides* that use the *Poster Book* to stimulate discussion and link maths to familiar contexts at school, home and in the community.

The *Resource Kit* has enough apparatus for a small group of six to eight learners. The apparatus that will be used in Term 1 Weeks 1 and 2 includes:

- ◆ counters: animal and fruit counters
- ◆ number cards: number symbol (1) and number word (one).

Facilitator’s notes

- ◆ Give a *Resource Kit* and a *Poster Book* to each participant.

You will each receive a *Resource Kit* and a *Poster Book*.

Refer to pages 6–17 of *Activity Guide: Term 1* to read about classroom resources and setting up a maths learning environment.

Sheba boloko bo fifaditsweng qetellong ya ketsahalo e tataiswang ke titjhere ho Beke ya 2: '**Lekola hore baithuti ba kgona ho**'. Aekhone ya leihlo e re hopotsa hore re lokela ho shebella baithuti ha ba ntse ba sebetsa, mme re lokela ho mamela ka hloko ha ba ntse ba bua le rona le ha ba bua le bomphato ba bona.

Titjhere o etsa temoho kelellong ya hae ka moithuti ka mong mme hang ha baithuti ba tsamaile kamora sekolo, o ngola ditemoho tsa hae bukeng e kgethehileng ya ditemoho e nang le sebaka sa dinoutso sa moithuti ka mong.

Buka ya Diphoustara le Khiti ya Disebediswa

(Metsotso e 10)

Dinoutso tsa motsamaisi

- ◆ Hlalosa hore disebediswa tsa *Khiti ya Disebediswa* di tla sebediswa nakong ya diketsahalo tse tataiswang ke titjhere le hore ho na le disebediswa tse lekaneng bakeng sa sehlotshwana sa baithuti ba tsheletseng ho isa ho ba robedi. Hopotsa bankakarolo ka dikahare tsa *Khiti ya Disebediswa* mme o ba bontshe dikotwana tse latelang tsa disebediswa mme le buisane kamoo sesebediswa ka seng se tlang ho sebediswa:
 - dinto tsa ho bala: didiski le dithupa tse mebala, dibadi tsa ditholwana le diphoofolo, diboloko tsa Unifix
 - letaese
 - difaha tsa dibopeho
 - dikarete tsa dinomoro (matshwao a dinomoro le mantse a dinomoro)
 - diboloko tsa makgetha.
- ◆ Bontsha bankakarolo *Buka ya Diphoustara* mme o hlalose hore ho na le diketsahalo ka hara *Ditataiso tsa Diketsahalo* tse sebedisang *Buka ya Diphoustara* ho tsosolosa puisano le ho hokanya mmetse ho ditikoloho tse tlwaelehileng sekolong, lapeng le hara motse.

Khiti ya Disebediswa e na le disebediswa tse lekaneng bakeng sa sehlotshwana sa baithuti ba tsheletseng ho isa ho ba robedi. Disebediswa tse tlang ho sebediswa Kotareng ya 1 Dibekeng tsa 1 le 2 di kenyeletsa:

- ◆ dibadi: dibadi tsa diphoofolo le ditholwana
- ◆ dikarete tsa dinomoro: letshwao la nomoro (1) le lentswe la nomoro (nngwe).

Dinoutso tsa motsamaisi

- ◆ Fana ka *Khiti ya Disebediswa* le *Buka ya Diphoustara* ho monkakarolo ka mong.

E mong le e mong o tla fumana *Khiti ya Disebediswa* le *Buka ya Diphoustara*.

Shebang maqepheng a 6–17 a *Tataiso ya Diketsahalo: Kotara ya 1* ho bala ka disebediswa tsa phaposi ya borutelo le ho hlophisa tikoloho ya ho ithuta mmetse.

Closing activities

(10 minutes)

Facilitator's notes

- ◆ **Lessons learnt:** Ask participants to think about what they have learnt during the workshop and to complete **Activity 14** individually.
- ◆ **Take back to school task:** Read through this task. Ask if there is anything that is not clear and that requires more explanation.
- ◆ **Evaluation:** Hand out copies of the Workshop Evaluation Form and have participants complete the form.
- ◆ **Next workshop:** Ask participants to bring the *Poster Book*, *Concept Guide* and *Activity Guide: Term 1* to the next workshop. Give dates for the next workshop.
- ◆ **Register:** Remind all participants to make sure that they have signed the register.
- ◆ Close the workshop.



Activity 9

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

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



Take back to school task

1. Read the *Concept Guide* pages that were referred to during this workshop.
2. Use *Activity Guide: Term 1* to plan and implement Weeks 1–2 of the Maths Programme.
3. Reflect on how the Maths Programme's guiding principles informed teaching and learning in your classroom.
4. Set up a maths area. Take a photograph of it and bring it to the next workshop.

Dinoutso tsa motsamaisi

- ◆ **Thuto e ithutilweng:** Ere bankakarolo ba nahane ka seo ba ithutileng sona nakong ya wekshopo mme ba phethele **Ketsahalo ya 14** ka bomong.
- ◆ **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:** Kopa bankakarolo ho tla le *Buka ya Diphoustara, Tataiso ya Mareo* le *Tataiso ya Diketsahalo: Kotara ya 1* wekshopong e latelang. Fana ka matsatsi a wekshopo e latelang.
- ◆ **Rejistara:** Hopotsa bankakarolo bohle ho etsa bonnete ba hore ba saenne rejistara.
- ◆ Kwala wekshopo.



Ketsahalo ya 9

Dithuto tse ithutilweng: Nahana ka seo o ithutileng sona nakong ya wekshopo mme o tlatse tafole ena.

Dintho tseo ke seng ke di etsa tse sebetsang hantle	Mehopolo e metjha eo nka lakatsang ho e leka



Mosebetsi wa kgutlela le yona sekolong

1. Bala maqephe a *Tataiso ya Mareo* ao ho neng ho buuwe ka ona nakong ya wekshopo ena.
2. Sebedisa *Tataiso ya Diketsahalo: Kotara ya 1* ho rera le ho kenya tshebetsong Dibeke tsa 1–2 tsa Lenaneo la Mmetse.
3. Sekaseka kamoo dintlhatheo tse tataisang tsa Lenaneo la Mmetse di laelang ho ruta le ho ithuta ka teng phaposing ya hao ya borutelo.
4. Lokisa sebaka sa mmetse. Nka senepe sa sona mme o tle le sona wekshopong e latelang.

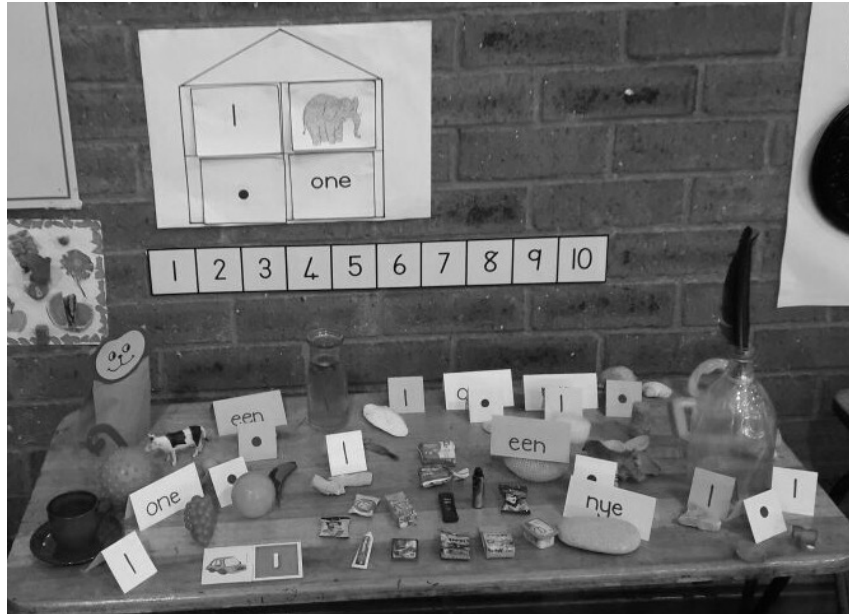


Bring the following to the next workshop:

- ◆ *Poster Book*
- ◆ *Concept Guide*
- ◆ *Activity Guide: Term 1.*

Evaluation

Complete the Evaluation Form.



Tloo le tse latelang ho wekshopo e latelang:

- ◆ *Buka ya Diphoustara*
- ◆ *Tataiso ya Mareo*
- ◆ *Tataiso ya Diketsahalo: Kotara ya 1.*

Tlhahlobo

Tlatsa Foromo ya Tlhahlobo.

APPENDIX B: TERM 1 WEEKLY CONTENT SUMMARY (WEEKS 1-2)

Term 1: Activity Plan

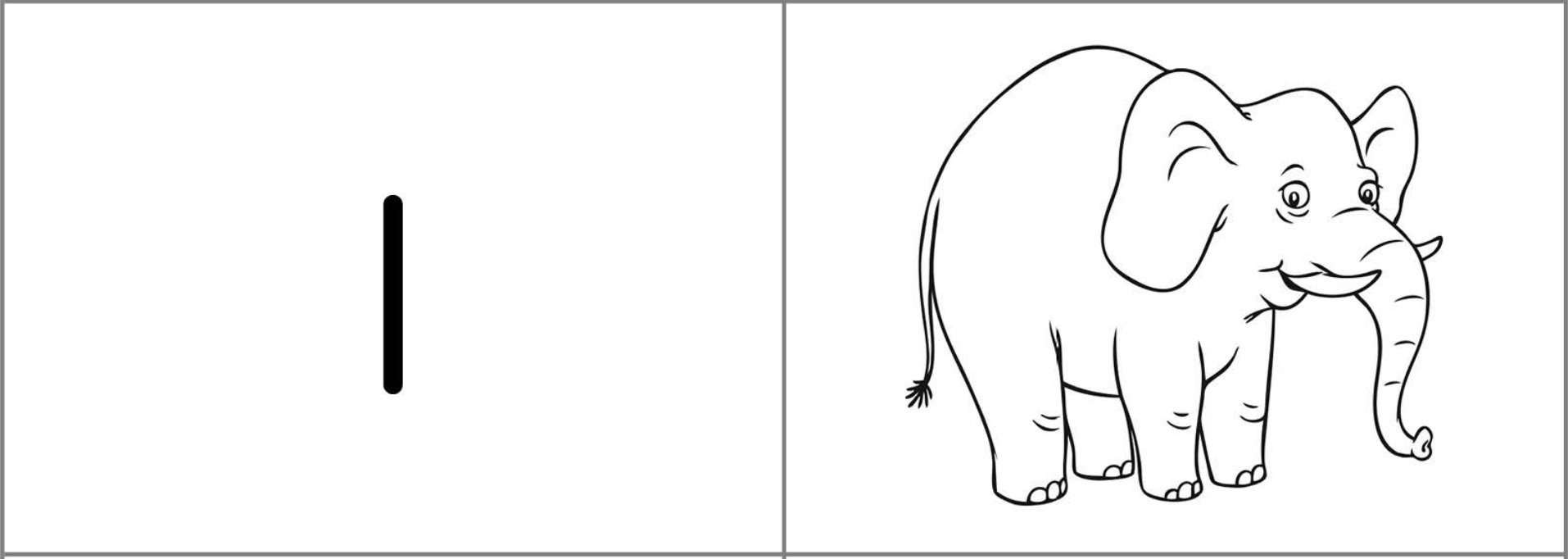
Week 1				
CONTENT AREA: NUMBERS, OPERATIONS AND RELATIONSHIPS				
TOPIC: Oral counting and counting objects				
INTRODUCE NEW KNOWLEDGE: Oral counting 1–5, counting objects 1–3, one-to-one correspondence, sequencing daily programme				
Whole class activities		Teacher-guided activity	Workstation activities	
Day 1	Routine, class rules, learner symbols and daily programme.	No teacher-guided small group activity in the first week to allow the teacher to rotate between all five workstations: guiding, assisting and encouraging the learners. Some learners may not have seen or used the equipment before so the teacher will need to demonstrate and support their first attempts.	Activity 1	Sorting animal and fruit counters by colour (from the <i>Resource Kit</i>).
Day 2	Helper’s chart, rhyme, <i>Grade R Maths family story</i> .		Activity 2	Playdough or clay modelling.
Day 3	Helper’s chart, Tidy-up chart, rhyme, oral counting and the <i>Grade R Maths family story</i> .		Activity 3	Draw a picture.
Day 4	Rhyme, oral counting, counting objects, sequencing daily events, bowls.		Activity 4	Six-piece puzzle.
Day 5	Rhyme, oral counting, learners’ symbols.		Activity 5	Building blocks.
Week 2				
CONTENT AREA: NUMBERS, OPERATIONS AND RELATIONSHIPS				
TOPIC: Number symbols and number words				
INTRODUCE NEW KNOWLEDGE: Introduce number 1, solving problems in everyday contexts (rhymes and posters)				
PRACTISE: Oral counting 1–5, counting objects 1–3, vocabulary from previous week				
Whole class activities		Teacher-guided activity	Workstation activities	
Day 1	Song, oral counting, introduce number 1 and the number 1 frieze, body parts (‘how many?’ games), find one object.	Support learners in their efforts to complete tasks. Ask guiding questions and encourage learners to share their ideas. Count objects: one-to-one correspondence. Sort animal counters according to colour. Match number 1 symbol and word cards with dot card and animal counters.	Activity 1	Matching counters to dots using egg boxes.
Day 2	Song, oral counting, frieze for number 1, body games.		Activity 2	Make one playdough object and draw it.
Day 3	Song, oral counting, counting objects, reinforce number 1, look for 1 object.		Activity 3	‘One’ template using playdough.
Day 4	Rhyme, oral counting, problem solving – poster story.		Activity 4	Building blocks.
Day 5	Rhyme, oral counting, counting objects in the poster, solving problems.			

SEHLOMATHISO B: KOTARA YA 1 KAKARETISO YA DIKAHARE TSA BEKE LE BEKE (DIBEKE TSA 1-2)

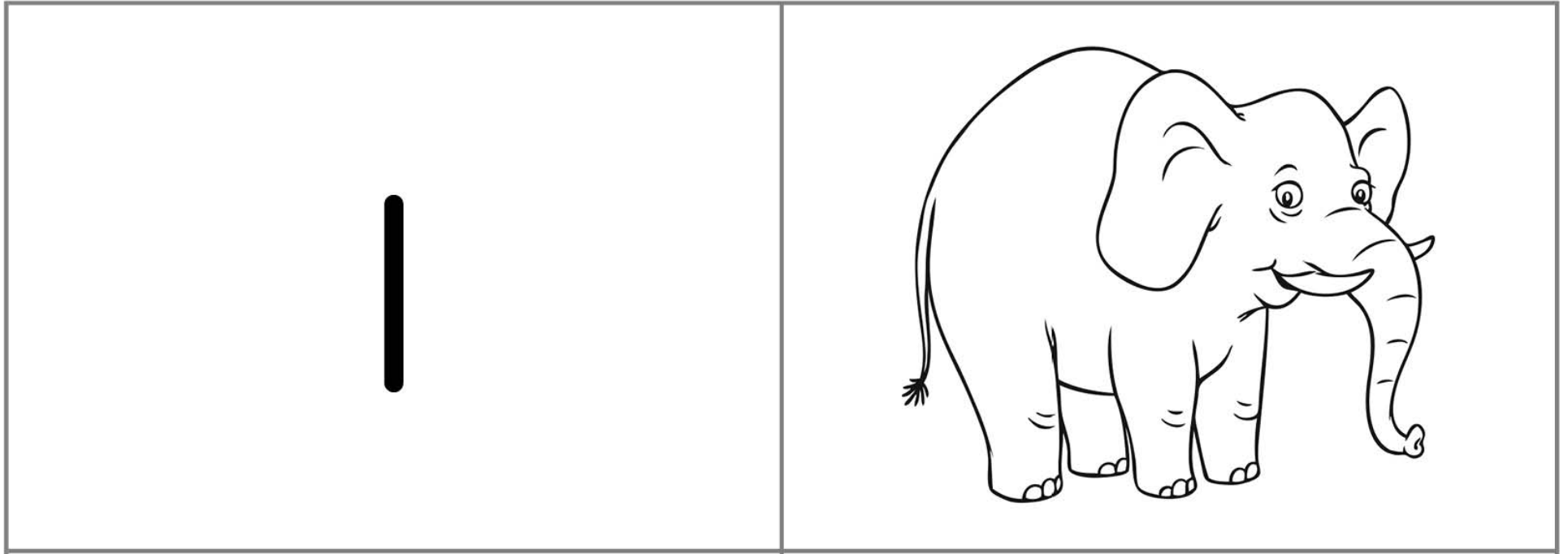
Kotara ya 1: Moralo wa Ketsahalo

Beke ya 1				
KAROLO YA DIKAHARE: DINOMORO, MATSHWAO LE DIKAMANO				
SEHLOOHO: Ho bala ka moloo le ho bala dintho				
TSEBISA TSEBO E NTJHA: Ho bala ka molomo 1-5, ho bala dintho 1-3, neeletsano pakeng tsa ntho tse pedi, tlhahlamanyo ya lenaneo la letsatsi le letsatsi				
Diketsahalo tsa tlelase yohle		Ketsahalo e tataiswang ke titjhere		Diketsahalo tsa diteisheneng tsa tshebetso
Letsatsi la 1	Diketso tsa tlwaelo, melao ya tlelase, matshwao a baithuti le lenaneo la letsatsi le letsatsi.	Ho se be le ketsahalo ya dihlotswana e tataiswang ke titjhere bekeng ya pele ho dumella titjhere ho potoloha dipakeng tsa diteishene tsohle tse hlano tsa tshebetso: a tataisa, a thusa le ho kgothatsa baithuti. Baithuti ba bang e ka nna yaba ha ba eso bone kapa ho sebedisa disebediswa pele ho moo kahoo titjhere o tla hloka ho bontsha le ho tshehetsa boiteko ba bona ba pele.		Ketsahalo ya 1
Letsatsi la 2	Tjhate ya mothusi, raeme, <i>Pale ya Lelapa ya Mmetse wa Kereiti ya R.</i>			Ketsahalo ya 2
Letsatsi la 3	Tjhate ya mothusi, tjhate ya ho hlwekisa, raeme, ho bala ka molomo le <i>pale ya lelapa ya Mmetse wa Kereiti ya R.</i>			Ketsahalo ya 3
Letsatsi la 4	Raeme, ho bala ka molomo, ho bala dintho, ho hlahlamanya diketsahalo tsa letsatsi le letsatsi, dikotlolo.			Ketsahalo ya 4
Letsatsi la 5	Raeme, ho bala ka molomo, matshwao a baithuti.			Ketsahalo ya 5
Beke ya 2				
KAROLO YA DIKAHARE: DINOMORO, MATSHWAO LE DIKAMANO				
SEHLOOHO: Matshwao a dinomoro le mantswa a dinomoro				
TSEBISA TSEBO E NTJHA: Tsebisano nomoro ya 1, ho rarolla mathata ditikolohong tsa kamehla (diraeme le diphoustara)				
HO IKWETLISA: Ho bala ka molomo 1-5, ho bala dintho 1-3, tlotlontswa e tswang bekeng e fetileng				
Diketsahalo tsa tlelase yohle		Ketsahalo e tataiswang ke titjhere		Diketsahalo tsa diteisheneng tsa tshebetso
Letsatsi la 1	Pina, ho bala ka molomo, ho tsebisano nomoro ya 1 le frizi ya nomoro ya 1, dikarolo tsa mmele (dipapadi tsa 'ke tse kae?'), fumana ntho e le nngwe.	Tshehetsa baithuti boitekong ba bona ba ho phethela mesebetsi. Botsa dipotso tse tataisang mme o kgothale tse baithuti ho abelana ka mehopollo ya bona. Bala dintho: neeletsano pakeng tsa ntho tse pedi. Hlopha dibadi tsa diphoofolo ho ya ka mebala. Nyalanya karete ya letshwao la nomoro ya 1 le karete ya lentse le karete ya letheba le dibadi tsa diphoofolo.		Ketsahalo ya 1
Letsatsi la 2	Pina, ho bala ka molomo, frizi bakeng sa nomoro ya 1, dipapadi tsa mmele.			Ketsahalo ya 2
Letsatsi la 3	Pina, ho bala ka molomo, ho bala dintho, ho hatella nomoro ya 1, ho batla ntho e le 1.			Ketsahalo ya 3
Letsatsi la 4	Raeme, ho bala ka molomo, ho rarolla bothata - pale ya phoustara.			Ketsahalo ya 4
Letsatsi la 5	Raeme, ho bala ka molomo, ho bala dintho tse phoustareng, ho rarolla mathata.			

APPENDIX C: NUMBER 1 FRIEZE CARDS



SEHLOMATHISO C: DIKARETE TSA FRIZI YA NOMORO YA 1





one



nngwe

Workshop 1 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 1

1. Na wekshopo ena e fihletse ditebello tsa hao?

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

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

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

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