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EDUCATION
REPUBLIC OF SOUTH AFRICA

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GROWING GAUTENG TOGETHER

Setswana/English

Lenaneotokafatso la Dipalo tša Mophato R Grade R Mathematics Improvement Programme



**Thutano 1 • Workshop 1
Kaedi ya Mofathosi • Facilitator's Guide**

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

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

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

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

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

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

DITEBOGO

Ditebogo di lebiswa segolobogolo go:

- Batlhankedi ba Lefapha la Thuto la Gauteng mo Lephatheng la Kharikhulamo, Bokaedi jwa Thuto ya Barutabana le Thuto e e Kgethegileng ka ntlha ya seabe sa bona go dirisa dibukana tseno tsa rona.
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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)

Thadiso

Maitlhommo

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

Batsayakarolo ba tlaa amogela tshedimosetso ka ga dikarolwana le melawana e e kaelang ya go ruta dipalo mo Mophatong wa R. Ba tlaa akanya ka ga tsona le go di buisanela mo bokaelong jwa ipaakanyo ya bona le mo go ruteng ga bona. Batsayakarolo gape ba tlaa tlhabolola Dikaroloteng tsa Dipalo tsa Mophato wa R mo Pegelong ya Pholisi ya Kharikhulamo le Tlhatlhobo (PPKT). Ba tlaa rulaganya nako e e tobilweng ya Lenaneo la Letsatsi le letsatsi la Dipalo mo dibekeng tse pedi tsa ntlha tsa Kgweditharo ya 1. Mo thutanong, ba tlaa akanya ka ga melawana e e kaelang e e leng yona e kgontshang go ruta le go ithuta.

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

Dipoelothuto

- ◆ Go tlwaela Lenaneo la Dipalo le gore le tshegetsatsa jang diteng tsa PPKT ya Dipalo tsa Mophato wa R le go di atolosa
- ◆ Go lekeletsa dikarolwana tsa Lenaneo la Dipalo
- ◆ Go tlhaloganya melawana ya go ruta e e tlhagisiwang mo Lenaneong la Dipalo
- ◆ Go rulaganya beke ya Kgweditharo ya 1 e e ikaegileng ka mmotlolo wa go ruta ka setlhopha sa botlhano
- ◆ Go mekamekana le diteng tsa Lenaneo la Dipalo la Kgweditharo 1 Dibeke 1-2 (Dinomore, Ditiro le Dikamano)

Diteng tsa thutano

- ◆ Karolo 1: Go tsamaisiwa tshepedi mo Lenaneong la Dipalo (Diura di le 2)
TEE
- ◆ Karolo 2: Dinomore, Ditiro le Dikamano (Diura di le 2)
DIJOTSHEGARE
- ◆ Karolo 3: Go diragatsa mmotlolo wa go ruta ka setlhopha sa botlhano (Diura di le 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

- ◆ Tsenang ka nako.
- ◆ Tima selefounu ya gago fa re le mo dithutanong.
- ◆ Neela mongwe le mongwe tšhono ya go tsaya karolo.
- ◆ Reetsa dikakanyo tsa ba bangwe.

Ipaakanyo

- ◆ Ditlhagiso tsa PPT

- ◆ Buisa:

Kaedi ya Mogopolo, ditsebe 114–117

Kaedi ya Ditirwana: Kgweditharo 1, ditsebe 18–21

Mametlelelo B: Kgweditharo 1 Khutshwafatso ya Diteng tsa Beke le Beke

- ◆ *Kgetsana ya Didiriswa*, dikhokhi le pampiri mo tafoleng ya setlhopha se sengwe le se sengwe.
- ◆ Rulaganya kanelo ya dinomorekgabisi mme o kokoanye didiriswa.
- ◆ Dira thempoleiti ya ntlo mo letlhareng le legolo la pampiri ya tšhatephetogi – thala popego ya ntlo e e arogantsweng ka dikarolo di le nne.
- ◆ Khalara dikarata tsa nomorekgabisi 1 mo Mametlelelong C. Di mamaretse mo khatebotong.

Didiriswa

- ◆ Rejisetara ya botseneladithutano
- ◆ Pampiri ya tšhatephetogi, dikhokhi
- ◆ Dikhophi tsa *Bukatiro ya Batsayakarolo*, *Kaedi ya Mogopolo* le *Kaedi ya Ditirwana: Kgweditharo 1*
- ◆ *Dikgetsana tsa Didiriswa*
- ◆ Dikarolwana tsa diphazele
- ◆ Thempoleiti ya ntlo ya nomorekgabisi le dikaratakgabisi

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 1: Go tsamaisiwa tshepedi mo Lenaneong la Dipalo

Diura di le 2

Dintlha tsa mofatlhosi

- ◆ Batsayakarolo ba tshwanetse ba bo ba dutse ka ditlhotshwana tsa batho ba le barataro go ya go ba le robedi. Ba latele melawana ya COVID-19.
- ◆ Neela motho mongwe le mongwe *Bukatiro ya Batsayakarolo* le rejisetara ya botseneladithutano.
- ◆ Amogela batsayakarolo mme o ikitsise.
- ◆ Buisanelang melawanatsamaiso ya go dira mmogo ka nako ya dithutano (leba tsebe 9).
- ◆ Neela batsayakarolo tšhono ya go ikitsise mo ditlhotshwaneng tsa bona le mo setlhopheng sotlhe.
- ◆ Ba rotloetse go arogana maitemogelo a bona a go ikatisa le a go ruta.
- ◆ Laletsa batsayakarolo go arogana ditsholofelo tsa bona ka dithutano.

Ikwadiso

Kamogelo le melawana ya tsamaiso

(Metsotso e le 10)

O amogetswe mo thutanong ya ntlha ya dithutano di le lesomepedi tsa dipalo tsa Projeke ya Lenaneotokafatso la Dipalo le Puo tsa Mophato wa R ya Lefapha la Thuto la Gauteng (GDE).

A re simolole ka go itsise batlhagisi le go dumelana ka ga melawana ya tsamaiso.

Go arogana maitemogelo a go ruta

(Metsotso e le 15)



Tirwana 2

1. Tsaya nako go akanya ka ga maitemogelo a gago a go ruta Mophato wa R, segolobogolo go ruta dipalo mo Mophatong wa R. Akanya ka ga go katisiwa ga gago le gore go go tlhokoditse jang go ruta dipalo. Leka gape go tlhaola bokgoni jwa gago mmogo le makoa mo dipalong.

2. Arogana le molekane wa gago maitemogelo mangwe a gago a a jesang di welang le a a seng monate.
3. Tlhopha motho a le mongwe mo setlhopheng sa gago go kwala dikakanyo tse mongwe le mongwe o di aroganang le setlhopha.

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:

Goreng go na le Lenaneo la Dipalo tsa Mophato wa R?

Dintlha tsa mofatlhosi

- ◆ PPT: Khutshwafatso ya tshedimosetso fa tlase.
- ◆ Buisanang ka ga botlhokwa jwa go ithuta dipalo le go di ruta mo Logatong lwa Motheo. Itsise Lenaneotokafatso la Dipalo tsa Mophato R la Lefapha la Thuto la Gauteng jaaka tsereganyo go kgontsha go diragadiwa ga kharikhulamo ya PPKT mo Mophatong wa R.

Bontsi jwa barutwana ba dikolopotlana tsa Aforikaborwa ga ba dire sentle mo Puong le mo Dipalong. Phesente e kgolwane ya barutwana e retelwa ke go fitlhelela le maemo a a kwa tlase tota a a solofetsweng mo dirutweng tseno tsa botlhokwa. Go ntse go na le tswelelopele e e bonya tota mo tokafalong ya dipoelothuto le go fokotsa mokhino wa phitlhelelo magareng ga barutwana go tswa mo lemoragong le le farologaneng. Mabaka a seno a matswakabele, mme e bile ga se a phaposiborutelo fela mme gape a amiwa ke kgolo ya bana le go tlhogola ga bona go tswa tsalong.

E nngwe ya merero ya botlhokwa mo go fitlheleleng thuto ya pele ga sekolo mmogo le mafaratlhatlha le bolaodi jwa dikolo mo Aforikaborwa e nnile dipotso tsa motheo ka ga se bana ba se ithutang le gore ba ithuta jang. Gore bana botlhe ba nne le tšhono e e botoka ya go dirisa bokgoni jwa bona mo Dipalong, se se totilweng se tshwanetse go atoloswa go akaretsa kgolo ya dipalo mo Mophatong wa R le go tlamela barutabana le badiri ba Mophato wa R ka kitso le dikgono tse di tlhokagalang go tshegetsisa go ithuta ga bana ba bannye.

GDE e tlaotse Kgodisopele ya Bana jaaka Phitlhelelo ya Togamaano 1 mme gape e nngwe ya diphitlhelelo tsa yona tsa botlhokwa ke go tokafatsa go ithuta Puogae le Dipalo mo Mophatong wa R. Ka Projeke ya Lenaneotokafatso la Dipalo le Puo tsa Mophato wa R, GDE e leka thata go tokafatsa phitlhelelo mo Mophatong wa R le go katisetsa barutwana Mophato wa 1.

Re dumela gore Lenaneo la Dipalo le tlaa tshwaela thata mo tiragatsong ya PPKT le gore le tlaa tiisa ditšhono tsa go ithuta tse di setseng di le teng tsa barutwana botlhe mo Mophatong wa R gore ba kgone go fitlhelela bokgoni jo bo feletseng jwa bona.

Lenaneo la Dipalo tsa Mophato wa R ke eng?

Dintlha tsa mofatlhosi

- ◆ PPT: Tsebe 11 ya *Kaedi ya Mogopolo*, khutshwafatso ya tshedimosetso e e fa tlase.

Lenaneo la Dipalo le totile go ithuta le go ruta motho mogopolo kgotsa setlhogo sa dipalo ka nako e le nngwe. Beke e nngwe le e nngwe e totile segolobogolo Karoloteng ya PPKT. Kitso e ntšhwa e tlhagisiwa 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*.

- ◆ ditirwana tsa phaposiborutelo yotlhe
- ◆ ditirwana tsa ditlhophha tse dinnye: ditirwana tse di kaelwang ke morutabana le ditirwana (tsedi kwa thoko) tsa boikemedi
- ◆ ditirwana tsa go ithophela ka tokologo.

Lenaneo la Dipalo le:

- ◆ tshegetsang, atolosa le go gatelela diteng tsa Dipalo tsa Mophato wa R tsa PPKT. Ga le emisetsa PPKT mme e bile e dumela gore barutabana ba na le kitsopele le go tlhologanya Dipalo tsa Mophato wa R tsa PPKT.
- ◆ rotloetsa nako e e totilweng gore barutwana ba itlwaetse dikgono tse dintšhwa tse ba di fitlheletseng le kitso, le go agelela ditšhono tsa go ikatisa mo ditirwaneng tse di ipaakaneyditsweng tsa dipalo le maitemogelo.
- ◆ neela barutwana kaedi e e nang le dintlha tsotlhe tse di tshegetsang go ruta le go ithuta.
- ◆ kaelwa ke melawana e le robedi e e nang le seabe mo go ruteng le go ithuteng ka katlego.
- ◆ tshegetsang barutabana mo go direng gore go nne le kgolagano magareng ga megopolo ya Dipalo tsa Mophato wa R le bokgoni jwa dipalo kgabagare.
- ◆ gatelela tebelelo ya beke le beke ya barutwana jaaka sediriswa sa go kokoanya tshedimosetso ka ga ngwana yo mongwe le yo mongwe go nna le tshusumetso mo go ipaakanyeng le mo tlatlhobong.

Lebelela tsebe 13 mo *Kaeding ya Mogopolo* go buisa go le gontsi ka ga Lenaneotokafatso la Dipalo tsa Mophato wa R.

Buisa go le gontsi ka ga melawana e e kaelang ya Lenaneo la Dipalo mo ditsebeng 14–73 tsa *Kaedi ya Mogopolo*.

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.

Nako e e beetsweng Dipalo mo Mophatong wa R (Metsotso e le 10)

Dintlha tsa mofatlhosi

- ◆ PPT: Nako e e beilweng mo Mophatong wa R (Kaedi ya Mogopolo, tsebe 76/77, Papetla 1).
- ◆ Kopa batsayakarolo go lebelela *Kaedi ya Mogopolo*, ditsebe 74–77.

PPKT e tshikhinya gore nako ya go ruta Dipalo mo Mophatong wa R e tshwanetse go nna diura di le 23 mo bekeng. Le fa go ntse jalo, PPKT ga e tlamele ka bokete kgotsa karogano ya nako e e tshwanetseng ya tsewa go mekamekana le karoloteng ya kgweditharo e nngwe le e nngwe.

Dipalo mo lenaneo la letsatsi le letsatsi la

Mophato wa R

(metsotso e le 20)

Lenaneo la letsatsi le letsatsi mo Mophatong wa R ga se papetla ya nako jaaka tse di dirisiwang mo mephatong e e kwa godingwana.

Mo Mophatong wa R, letsatsi le rulagantse go lebilwe ditlhokego tsa barutwana tsa kgolo. Letsatsi le simologa ka nako ya go bua le go opela mme le wediwe ka go ikhutsa le dikanelo. Mo tsamaong ya letsatsi, barutabana ba rulaganyetsa Puogae, Dikgono tsa Botshelo le Kitso le go tlhaloganya Dipalo ditirwana. Ka nako ya go tshameka le go buisana le morutabana le barutwana ba bangwe go na le ditšhono tse dintsi tsa go tsenyeletsa dikgono tse dintšhwa le nako ya go ikatisetsa se se ntseng se ithutiwa.

Lenaneo la Dipalo le tshikhinya tsela ya go rulaganya lenaneo la letsatsi le letsatsi le le nang le nako e e totileng Puogae, Dikgono tsa Botshelo le Dipalo.

Dintlha tsa mofatlhosi

- ◆ PPT: Lenaneo la letsatsi le letsatsi la Mophato wa R (*Kaedi ya Mogopolo*, tsebe 80/81, Setshwantsho 31).
- ◆ Kopa batsayakarolo go lebelela *Kaedi ya Mogopolo*, ditsebe 78–81.
- ◆ Kopa batsayakarolo go dira **Tirwana 5** mo ditlhopheng tsa bona. Kopa gore setlhopha se sengwe le se sengwe se dire pegelo mme o ba kope go neela dikao tsa ka moo dipalo di rutiwang ka teng le go ithutiwa mo dikarolong tse di farologaneng tsa lenaneo la letsatsi le letsatsi, sekao, ka nako ya meetlo ya tlwaelo, ya ditirwana tsa phaposiborutelo yotlhe, ditirwana tse di kaelwang ke morutabana, ditirwana tsa ditlhopha tse dinnye tsa seteišenetiro le tsa boitlhophelo.
- ◆ Buisanang ka ga nako e e totileng Dipalo ka go e amanya le e e totileng Puogae, e e setseng e tlhagisitswe.

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 e e totilweng ya Dipalo letsatsi le letsatsi

Dintlha tsa mofatlhosi

- ◆ PPT: Nako e e totilweng ya Dipalo letsatsi le letsatsi (*Kaedi ya Mogopolo*, tsebe 82/83, Setshwantsho 33, kgotsa sethalo se se fa tlase). Khutshwafatsa tshedimosetso mo ditsebeng 84–93 tsa *Kaedi ya Mogopolo*.

Dikaelo tsa thualaganyo ya phaposiborutelo le taolo ya nako e e totilweng ya Dipalo

1. Dikamuso tsa dipalo tsa phaposiborutelo yotlhe

- ◆ Metsotso e le 15–25
- ◆ Barutwana botlhe ba dula ba dirile sediko mmogo le morutabana.
- ◆ Ditirwana:
 - Tsolotanya le go tlamela ka ikatiso ya megopolo e e setseng e rutilwe.
 - Tlhagisa mogopolo o mošwa.
 - Atolosa mogopolo o o totilweng thata mo bekeng:
 - go balela kwa godimo/ka tatelano (merumo, dipina, go latedisanya dinomore)
 - go bala dilo
 - go tthagisa dipalo tse di tlhokang go rarabololwa, metshameko ya tthaloganyo.
 - Neela ditlhopho tse dinnye ditaelo tsa ditirwana kwa diteišeneng tsa tiro.

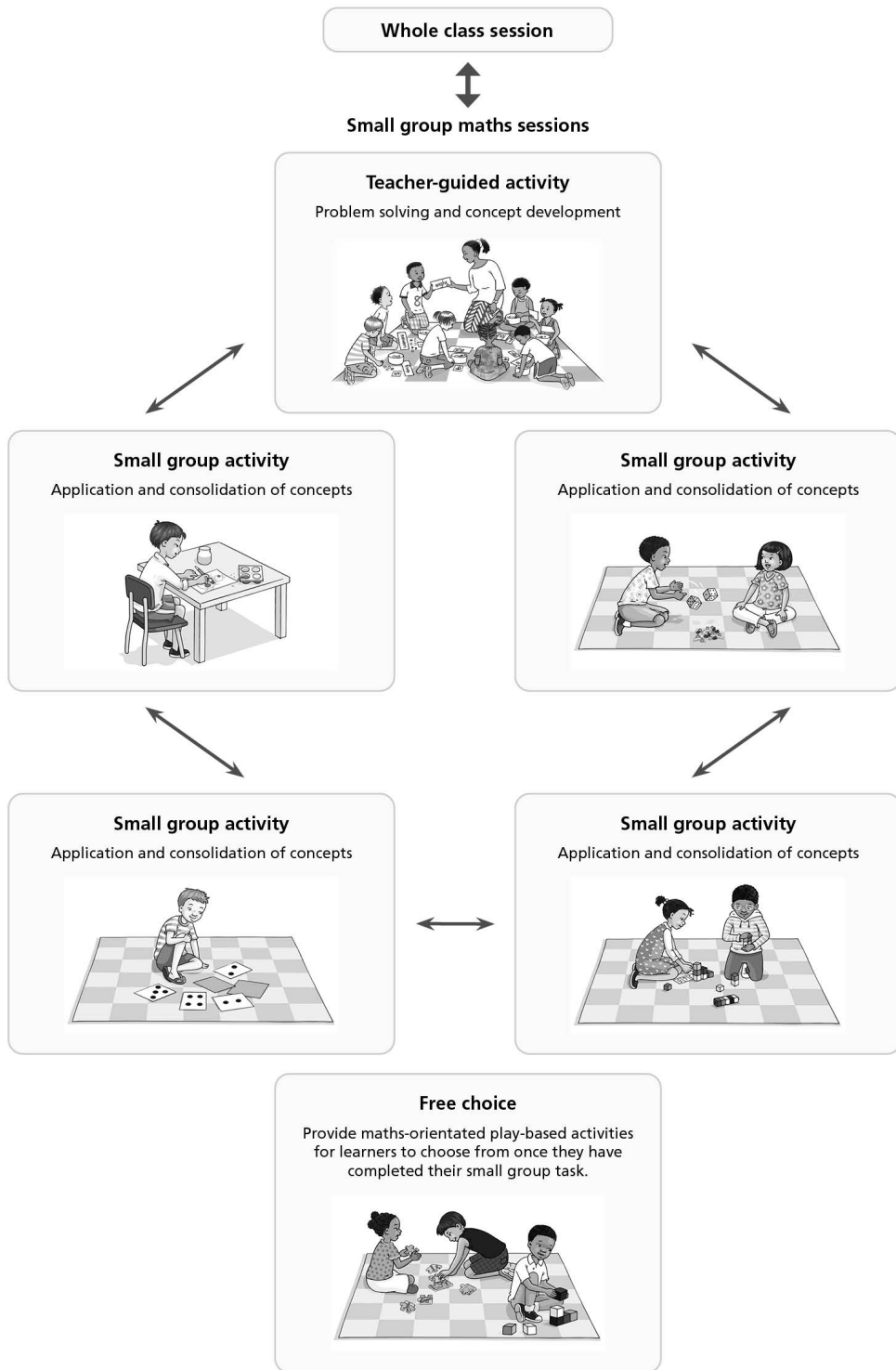
2. Dikamuso tsa dipalo tsa ditlhopho tse dinnye

- ◆ A phaposi e arogangwe ka ditlhopho tse dinnye tse tlhano tsa bo-thataro go ya go bo-robedi setlhopho se sengwe le se sengwe.
- ◆ Letsatsi le lengwe le le lengwe setlhopho se sengwe se dira le morutabana (tirwana e e kaelwang ke morutabana) fa ditlhopho tse nne di dira ka boikemedi mo ditirwaneng tse di rulagantsweng kwa diteišeneng tsa tiro tsa dipalo.
- ◆ Ditlhopho di refosana letsatsi le letsatsi.
- ◆ Ditirwana:
 - Tsolotanya le go tlamela ka ditšhono go ikatisetsa megopolo e e setseng e rutilwe.
 - Tlhotlhomisa mogopolo o mošwa o o totilweng thata mo bekeng.
 - Tlamela ka ditšhono go ikatisetsa megopolo e e totilweng thata mo bekeng.
- ◆ **Tirwana e e kaelwang ke morutabana** e totile go dira le setlhopho se le sengwe sa barutwana go:
 - tsolotanya le go ikatisetsa megopolo e e setseng e rutilwe
 - tiisa go tthaloganya mogopolo o mošwa
 - ela tswelelopele ya barutwana tlhoko.

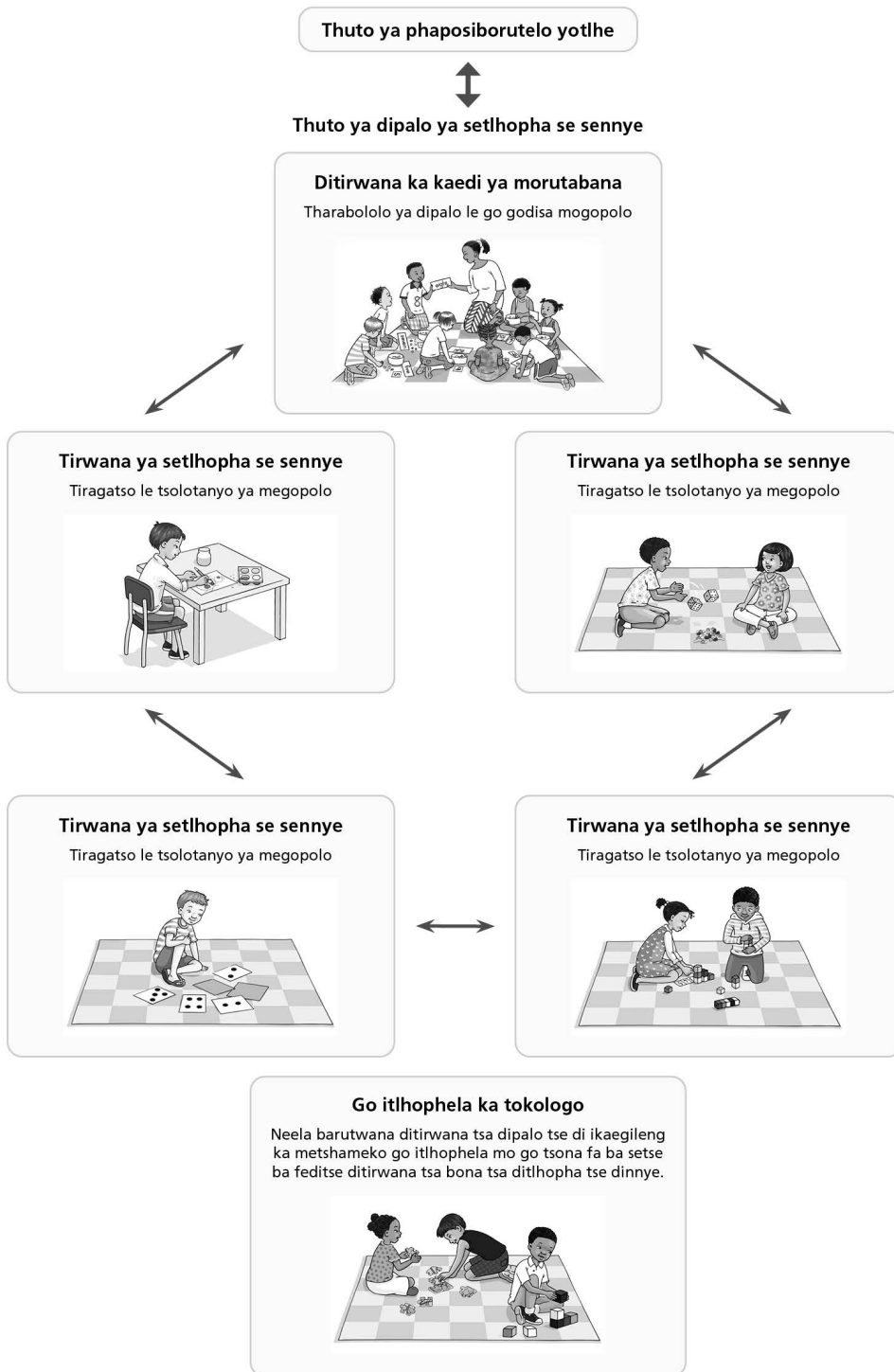
3. Ditirwana tse di lokologileng

- ◆ Ditirwana tse di lokologileng tsa tlaleletso mmogo le go tota dipalo go tlametswe barutwana ba ba weditseng tirwana ya bona ya setlhopho se sennye.

Katiso ya puo e go tthagiseditse tsheko ya dibeke tse pedi ya go ruta le go ithuta. Lenaneo la Dipalo le lona le latela mokgwa o o rulaganeng go rulaganyetsa phaposiborutelo nako e e totilweng ya Dipalo. Tsheko ya go ruta le go ithuta ya Lenaneo la Dipalo e ikaegile ka ditirwana tsa ditlhopho tse dinnye di le tlhano tse di refosangwang mo bekeng e le nngwe. Kamuso e simologa ka Mosupologo mme e khutle ka Labotlhano.



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



Lebelela ditsebe 82–93 tsa *Kaedi ya Mogopolo* go buisa go le gontsi ka ga go rulaganyetsa kamuso e e totileng Dipalo letsatsi le letsatsi phaposiborutelo ya gago.

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 2: Dinomore, Ditiro le Dikamano Diura di le 2

Kgweditharo 1–4 thadiso ya diteng (PPKT)

(Metsotso e le 45)

Dintlha tsa mofatlhosi

- ◆ PPT: *Kaedi ya Mogopolo*, tsebe 110/111, Setshwantsho 41 le khutshwafatso mo ditsebeng 110–113
- ◆ Kopa batsayakarolo go lebelela *Kaedi ya Mogopolo*, ditsebe 114–137. Tlhalosa gore thadiso eno ya diteng e tlamela ka letlhomeso la dithulaganyetso tsotlhe tsa dipalo le gore e tlaa dirisiwa le go dirisiwa jaaka motswedi mo katisong yotlhe.
- ◆ PPT: Buisanang ka ga papetla. Tlhalosa gore mokwalo wa mmala o mobududu o tswa mo PPKT le gore mokwalo o montsho ke diteng tse di tsentsweng go aga le go atolosa PPKT mo Lenaneong la Dipalo.

Lenaneo la Dipalo le nyalelane le go atolosa diteng tsa Dikaroloteng tsa Dipalo tsa PPKT. Papetla e e mo ditsebeng 114–137 tsa *Kaedi ya Mogopolo* e tlamela ka thadiso ya diteng tsa dipalo tse di tshwanetseng go rutiwa mo Mophatong wa R. Gape e bontsha gore ke diteng dife tse di tshwanetseng go rutiwa kgweditharo e nngwe le e nngwe.

- ◆ Mokwalo wa mmala o mopududu ke diteng tse di tswang mo PPKT ya Dipalo tsa Mophato wa R.
- ◆ Mokwalo wa mmala o montsho o tsentswe go atolosa le go agelela mo PPKT.
- ◆ Ditlhogo di latelana go supa tswelolepele e e golang go tswa mo setlhogong se sengwe go ya go se sengwe.

Lebelela ditsebe 110–113 tsa *Kaedi ya Mogopolo* mme o buise 1.1, 1.2 le 1.3 mo ditsebeng 114–117. Morago ga go buisa dinomore 1.1, 1.2 le 1.3, dira ditirwana 7 le 8.

Dintlha tsa mofatlhosi

- ◆ A batsayakarolo ba dire **Tirwana 7** mo ditlhopheng tsa bona. Kopa mongwe go tswa mo setlhopheng se sengwe le se sengwe go arogana dikakanyo tsa bona.



Tirwana 2

Lebelela thadiso ya diteng mo Kgweditharong 1–4 fa o batla Karoloteng: Dinomore, Ditiro le Dikamano, mo *Kaeding ya Mogopolo* le mo tokomaneng ya PPKT. Mo setlhopheng sa gago, buisanang ka ga:

1. Lenaneo la Dipalo le tlaleleletsa eng mo diteng tsa PPKT?

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.

Lebelela mokwalo o o kwa morago mo ditsebeng 114–117 tsa *Kaedi ya Mogopolo*, Diteng tse di lebeleletsweng thata di tsentswe: dikaratarontho, ditlhagiso tse dimmalwanyana, dibaga tsa dikago, mola wa go tlola, mogala wa dinomore, go nyalanya le letshwaopalo/lefokopalo, go aroganya le go aga dikokoanyo, go rulaganya matshwaopalo, dipalokemotatelano mo ditirwaneng tsa letsatsi le letsatsi, o rarabololela dipalo kwa godimo, go arogana ka tekano.

2. Ke megopolo efe ya go bala e e lebelelwang mo Nomoreng, Ditirong le Dikamanong mo Kgweditharo 1?

Lebelela mokwalo o montsho mo tsebeng 114–115 ya *Kaedi ya Mogopolo*: tsamaelano ya nngwe ka nngwe, tekanyetso, go nyalanya, ditlhagiso tse di mmalwanyana, go balela kwa pele 1–10, go balela kwa morago 5–1.

Dintlha tsa mofatlhosi

- ◆ Tlhalosa gore ka nako ya dithutano, go tlaa lebelelwa go diragadiwa ga Lenaneo la Dipalo le gore batsayakarolo ba tlhoka go tshaloganya megopolo ya dipalo gore ba kgone go tshegetsa barutwana ba bona. Thutano eno e tlamela ka tshaloganyo ya megopolo ya botlhokwa mo Dinomoreng, Ditirong le Dikamanong.

Megopolo ya botlhokwa mo Dinomoreng, Ditirong le Dikamanong

(Diura di le 1¼)

Go bala

Go balela kwa godimo (ka moribo, ka tatelano kgotsa palelogodimo)

Dintlha tsa mofatlhosi

- ◆ Kopa batsayakarolo go ikaroganya ka ditlhopho tse dinnye tsa botlhano le go batla sebaka se se bulegileng mo phaposeng ya katiso. Ba kope go lebelela **Tirwana 8** mme o ba kope go bua morumo, *Nngwe, pedi, tharo, nne, tlhano* (*Kaedi ya Ditirwana: Kgweditharo 1*, tsebe 197) ka ditiragatso.
- ◆ Mo ditlhopheng tsa bona tse dinnye, a batsayakarolo ba akanye ka ga tirwana le dikgono tsa go bala tse ba di dirisitseng mme ba dire **Tirwana 8** le **9**.
- ◆ Kopa ditlhopho go bega tebang le dipuisano tsa bona. Kwala lenane la kgono e nngwe le e nngwe mo tshatephetoging.
- ◆ Netefatsa gore batsayakarolo ba tshaloganya gore go balela kwa godimo go akaretsa go tshwarelela maina a dinomore mme e bile ga go kaye gore bana ba itse go bala.
- ◆ Buisa tshedimosetso e e fa tlase ka ga go balela kwa godimo.
- ◆ Buisanelang mareo a a latelang: go balela godimo, go bala ka tatelano le palelogodimo.
- ◆ PPT: jaaka: buka, setulo, ntšwa, ntlo.
- ◆ Tlhalosa gore go bala mainapalo ka tatelano mo barutwaneng ga go simolole go nna le kamano le mogopolo wa dipalo, sk. jaaka: buka, setulo, ntšwa, ntlo....Barutwana ba tshaloganya ka iketlo gore lefoko le lengwe le le lengwe le a ikemela mo tatelanong le gore lefoko le lengwe le le lengwe le emela nomore e e rileng.

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.

Go balela kwa godimo go akaretsa go tshwarelela maina le thulaganyo ya palo ya dinomore, go le gantsi mo morumong kgotsa mo pineng.

Mo Mophatong wa R, barutwana ba ithuta thulaganyo e e nepagetseng ya mainapalo le go boeletsa tatelano letsatsi le letsatsi. Maitlhommo a go balela kwa godimo ke go thusa barutwana go tlhologanya gore fa re balela kwa godimo go na le thulaganyo e e tsepameng ya dinomore: e e simololang kwa go nngwe, go latele pedi, tharo, nne, j.j. Kwa tshimologong barutwana ga ba tlhologanye bokao jwa leinapalo ka botlalo mme ka jalo ba ka tlola dinomore mo tatelanong ya go bala. Go bua morumo kgotsa motsaletsele wa dinomore kwa godimo go kaya go boeletsa mainapalo go tswa mo tlhogong. Lefa barutwana ba bala ka bo-pedi, bo-tlhano le bo-lesome ba dirisa kitso ya bona ya thulaganyo eno ya dinomore. Go tshwarelela maina a dinomore le go di boeletsa ka thulaganyo e e nepagetseng ya go bala ga go kaye gore barutwana ba itse go bala. Seno se farologane le go bala go batla go itse gore 'bokaakang'.

Ithulaganyeng ka ditlhopho tse dinnye tsa bo-tlhano mme lo batle sebaka se se bulegileng mo phaposeng ya katiso go dira tirwana e e latelang.



Tirwana 3

1. Mo setlhopheng sa lona se sennye, bua morumo, *Nngwe, pedi, tharo, nne, tlhano*, ka ditiragatso.

Nngwe, pedi, tharo, nne, tlhano

Nngwe, pedi, tharo, nne, tlhano

Nkile ka tshwara tlhapi e tshela.

'Goreng o ne wa e tlogela?'

Gonne e ne ya ntoma monwana botlhoko.

Nngwe, pedi, tharo, nne, tlhano

Morago ka tshwara segwagwa se tshela.

'O ne wa dirang ka sona?'

Ke ne ka re dumela mme ka se busetsa mo metsing.

2. A o akanya gore go dirisa morumo o o tshwanang le o ke ikatiso e e siametseng go ruta go bala mo Mophatong wa R? Neela mabaka a karabo ya gago.

Lebelela ditsebe 77 le 197 tsa *Kaedi ya Ditirwana: Kgweditharo 1* fa o batla go bona morumo ono.



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).



Tirwana 4

Mo sethopheng sona se sennye seo, arabang dipotso tseno:

1. Barutwana ba tlaa ithutang fa ba bua morumo ono?

2. Barutwana ba tlaa ithutang fa ba boeletsa tatelano ya dinomore ka thualaganyo e e nepagetseng ya go bala?

Bala ka bonngwe ka tatelano e e nepagetseng.

Tatelano ya go bala dinomore.

Mafokopalo a a nepagetseng.

Farologanya mafokopalo.

Thusa ka go tshwarelela tatelano ya thualaganyo ya go bala ka tlhogo.

Go bala dilo (go balela diphithhelelo)

Dintlha tsa mofatlhosi

- ◆ Bontsha gore dilo di balwa jang ka go dirisa tsamaelano ya nngwe ka nngwe.
- ◆ Kopa batsayakarolo go tsaya dibadi tse pedi tse di ka tlang seatla go tswa mo ditlamelwaneng tsa *Kgetsana ya Didiriswa* mo setshoding fa godimo ga tafole le gore ba di beye fa pele ga bona. Ba kope go tlhalosa gore ke ngatana efe e e nang le dibadi tse di fetang/mmalwanyana. Ba botse gore ba ka lemoga jang seno ntle le go bala. Ba rotloetse go nyalanya dilo tse di mo sethopheng se sengwe le se sengwe nngwe ka nngwe gore ba kgone go tlhalosa gore ke sethopho sefe se se nang le tse di kwa tlase.
- ◆ Kopa batsayakarolo go bala dilwana mo sethopheng se sengwe le se sengwe go bona gore ke sefe se se nang le tse di fetang/mmalwanyana.
- ◆ Botsa batsayakarolo gore ba dirisitse tlotlofoko efe, sk. bala, nngwe, pedi, tharo di kae, feta, mmalwanyana, sethopho
- ◆ Buisa tshedimosetso e e ka ga go bala dilo (go balela diphithhelelo) fa tlase.
- ◆ Netefatsa gore batsayakarolo ba tlhologanya pharologano magareng ga go balela kwa godimo le go bala dilo:
 - **Go balela kwa godimo** go akaretsa go tshwarelela le go latedisanya mafokopalo.
 - **Go bala dilo** go akaretsa go nyalanya lefokopalo le selo se sengwe le se sengwe se se badilweng le go tlhologanya gore nomore ya bofelo e e builweng e emela palogotlhe ya dinomore tse di badilweng (di 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.

Go bala dilo go akaretsa tsamaelano ya nngwe ka nngwe. Se se raya gore selo kgotsa tiragalo e nngwe le e nngwe e nyalanngwa le lefokopalo. Go bala gore 'di kae', barutwana ba tlhoka go lemoga gore selo se sengwe le se sengwe mo kokoanyong se na le lefokopalo ('nngwe, pedi, tharo, nne...') le gore o bala selo se sengwe le se sengwe gangwe fela.

Fa barutwana ba itse thulaganyo ya go bala dinomore, ba simolola go tlhaloganya gore nomore e nngwe le e nngwe mo tatelanong ya go bala e kgolwane mo nomoreng e e badilweng pele ga yona le gore e nnye ka nngwe mo nomoreng e e latelang. Ba:

- ◆ kgona go bapisa dinomore ka tlhogo le go bona gore pedi e feta nngwe ka nngwe le gore tharo e feta pedi ka nngwe.
- ◆ lemoga gore dinomore di gola ka nngwe nako e nngwe le e nngwe.
- ◆ lemoga gore nomore nngwe le nngwe mo tatelanong ya go bala e feta e e fetileng ka nngwe ka nepo.

Dintlha tsa mofatlhosi

- ◆ Tlhalosetsa batsayakarolo gore barutwana ga ba ithute megopolopalo le dikgono ka karogano. Ba tlhoka maitemogelo a letsatsi le letsatsi le nomore mo makaelong a a farologaneng a a akaretsang go balela kwa godimo, go bala dilo le go tshwantsha nomore ka ditsela tse di farologaneng.
- ◆ Gatelela gore barutwana ga ba tlhoke go kwala matshwaopalo mo Mophatong wa R. Go ithuta go kwala matshwaopalo go tshwanetse ga tsewa ka go tshwana le Mokwalo wa Tshoganyetso. Lebelela Dinomore, Ditiro le Dikamano mo tokomaneng ya PPKT le mo ditsebeng 114–117 tsa *Kaedi ya Mogopolo*.



Video 3

Kaedi ya Ditirwana: Kgweditsharo 1, Beke 2, Tirwana e e kaelwang ke morutabana #2, 3 (tsebe 46/47)

Lebelela video ya barutwana ba bala dilo tse di kokoantsweng. Tirwana eno ke e e kaelwang ke morutabana. Lemoga ka moo morutabana a elang morutwana yo mongwe le yo mongwe tlhoko ka teng le go ba botsa dipotso go ba rotloetsa go arogana dikakanyo.

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*.

Go tlhagisa dinomore

Dintlha tsa mofatlhosi

- ◆ Raya batsayakarolo o re: *Mpontshe botlhano*.
- ◆ Batsayakarolo go na le kgonagalo e kgolo ya gore ba ka tsholetsa menwana e metlhano. Ba tlhalosetse gore mogopolo kgotsa kakanyo ya nomore e mo tshaloganyong le gore ga re kgone go bona dinomore. Ga re kgone go di bona, fela re ka di tlhagisa ka ditsela tse di farologaneng, sekao, ka go dirisa menwana, dibadi, go itaya diatla, dikerese tsa botsalo. Re tlhagisa dinomore go bontsha 'di kae'.
- ◆ Kopa batsayakarolo go akanya ka ga ditsela tse di farologaneng tsa go tlhagisa nomore mme o ba kope go dira **Tirwana 10** ka nosi. Morago kopa batsayakarolo go arogana dikakanyo tsa bona.
- ◆ Dirisa tshedimose tse e e fa tlase go khutshwafatsa gore barutwana ba simolola jang go tlhagisa dinomore.



Tirwana 5

Ke ditsela di le kae tse o di lemogileng go ka tlhagisa nomore 5?

Barutwana ba simolola go tshwantsha dinomore ba dirisa menwana mme ba tswelele ka go dirisa ditsela tse dingwe jaaka dilo, dithalo, ditshwantsho kgotsa matshwao.

Barutwana ba tswelela pele:

- ◆ go tswa mo tirisong ya dilo tse di tshwaregang go tshwantsha (go emela) dinomore, sk. disirilamunu, dimonamone, diphensele, matlhare
- ◆ go ya mo tirisong ya ditshwantsho kgotsa dithalong go tshwantsha dilo, sk. sethalo sa sirilamunu, motho, koloi
- ◆ go ya mo tirisong ya dibadi go tshwantsha dilo kgotsa ditshwantsho, sk. didisiki tsa polasetiki go bontsha palo ya disirilamunu
- ◆ go ya mo tirisongmatshwao go tshwantsha dilo tse di bonalang le ditshwantsho, sk. didiko, marontho, matshwao a a lekalekanang, medumo ya diatla tse di opiwang, mesito ya meropa, dinao tse rethang lefatshe
- ◆ go ya mo tirisong ya matshwaopalo le mafokopalo, sk. '2' kgotsa 'pedi'.

Dintlha tsa mofatlhosi

- ◆ PPT: Tlhalosa gore Lenaneo la Dipalo le dirisa mokgwa wa go ruta nomore e e rileng ka nako e le nngwe le gore le sala moetlo ono morago mo nomoreng e nngwe le e nngwe e e rutiwang. Khutshwafatsa mokwalo o o fa tlase go thadisa moetlo ono ka bokhutshwane.
- ◆ Anaanela ka ga Kanelo ya nomore 1 mo tsebeng ya 197 ya *Kaedi ya Ditirwana: Kgweditharo 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.

- ◆ Anaanela kanelo gape, mo nakong eno akaretsa batsayakarolo ka go diragatsa kanelo fa o ntse o e anaanela, sk, ka go tsamaya jaaka tlou, go penta nomore 1 mo marulelong a ntlo, go nkgelala lelomo, go fofa jaaka nonyane nngwe.
- ◆ Supa tlhagiso ya dinomere tse di farologaneng ka go bontsha thempoleiti ya ntlo mo loboteng lwa phaposi ya boikatiso le go anaanela Kanelo ya nomore 1 gape. Feteletsa 'nngwe' gangwe le gape fa e tlhagelela mo kanelong, sk. nonyane e le nngwe, setlhare se le sengwe, banka e le nngwe, lelomo le le lengwe, leru le le lengwe, lebati le le lengwe, nakana ya lebati e le nngwe. Baya dikarata tsa nomorekgabisi ya 1 mo thempoleiting ya ntlo fa o ntse o tswelletse ka kanelo:
 - phologolo (setshwantsho)
 - letshwaopalo (1)
 - lerontho (nakana ya lebati)
 - lefokopalo (nngwe).

Lenaneo la Dipalo le dirisa mokgwa o o tlhagisang dinomere 0–10 e le nngwe ka nako e le nngwe le go sala morago moetlo o o tshwanang wa go ruta mo nomoreng e nngwe le e nngwe.

- ◆ Kanelo ka ga nomore e a anaanelwa. Seno se dira gore barutwana ba nne le kगतlhego mme gape se tlamela ka ga bokaelo jo bo tlwaelegileng e bile bo kगतlhisa gape bo golagana sentle le dikगतlhego mmogo le matshelo a barutwana.
- ◆ Nomore e nngwe le e nngwe e na le semelo se se rileng sa phologolo. Kanelo e e tlhagisang phologolo e dirisiwa go aga nomorekgabisi go emela nomore.
- ◆ Go diragatsa kanelo go tlamela barutwana ka ditšhono go tsiboga ka tiragatso ya tsamaisommele (go ithuta ka go diragatsa le go tsamaisa mebele ya bona).
- ◆ Dilo di a kokoanngwa go tlhagisa nomore ka ditsela tse di farologaneng. Dilo di bewa mo lefelong la dipalo.
- ◆ Barutwana ba nyalanya dilo le ditshwantsho, dikarataronho, matshwaopalo le mafokopalo.
- ◆ *Buka ya Diphousetara* e tlamela ka makaelo a letsatsi le letsatsi go susumetsa dipuisano le go rotloetsa go rarabolola dipalo.

Nomere 'nngwe' e tlhagisiwa mo bekeng ya bobedi ya Kgweditharo 1 go tlwaetsa barutwana moetlo ono. Moetlo ono o dirisiwa fa nomore e nngwe le e nngwe e ntšhwa e tlhagisiwa, go okediwa fela ka o le mongwe mo nomoreng e barutwana ba e rutilweng mo nakong e e fetileng.

Pele ga go dirwa tirwana e e latelang, buisana le mofatlhosi fa a anaanela kanelo ya nomore 1 le go aga nomorekgabisi ka go dirisa thempoleiti ya ntlo le dikaratakgabisi tsa diphologolo. Morago ga go reetsa kanelo, dirang Tirwana 11.

Dintlha tsa mofatlhosi

- ◆ Morago ga pontsho kopa batsayakarolo go dira **Tirwana 11**.
- ◆ Letla batsayakarolo go buisanela potso mo ditlhopheng tse dinnye le go arogana dikakanyo mo setlhopheng se segolo.
- ◆ Akanya ka ga tlotlofoko e e dirisitsweng mo tirwaneng, sk. nngwe, nomore, letshwaopalo, leinapalo, lefokopalo, tse kae, setlhopha, kokoanyo, bala, tshwana.



Activity 6

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

Picture, dot, number symbol, number word



Tirwana 6

Nomore 1 e tshwantshitswe/tlhagisitswe ka ditsela dife tse di farologaneng mo kanelong?

Setshwantsho, lerontho, letshwaopalo, lefokopalo

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 3: Go diragatsa mmotlolo wa go ruta ka setlhopha sa botlhanano

Diura di le 2

Re setse re buisane ka gore phaposiborutelo ya gago e ka rulaganyetswa go rutiwa le go ithuta dipalo jang mo nakong eo go totilweng Dipalo. Karolo eno e thadisa gore Lenaneo la Dipalo le rulaganyediwa le go diragatswa jang mme gape e totile ipaakanyetso ya go ruta mo Dibekeng 1 le 2 tsa Kgweditharo 1.

Kgweditharo 1 Khutshwafatso ya Diteng (Dibeke 1-2) (Diura e le 1)

Dintlha tsa mofatlhosi

- ◆ PPT: Nako ya Dipalo e e totilweng letsatsi le letsatsi (*Kaedi ya Mogopolo*, tsebe 83, Setshwantsho 33) le Beke 1 ya Mametlelelo B.
- ◆ Kopa batsayakarolo go lebelela Beke 1 ya Mametlelelo B: Kgweditharo 1 Khutshwafatso ya Diteng tsa Beke le Beke (Dibeke 1-2). Tlhalosa gore Khutshwafatso ya Diteng tsa Beke le Beke e tlamela ka khutshwafatso ya diteng tsa dipalo tsa beke e nngwe le e nngwe. Tlhalosa gore lethomeso leno le dirilwe le gore diteng tsa *Dikaedi tsa Ditirwana* di kwadilwe.
- ◆ Thadisa diponagalo tse di farologaneng tsa beke. Buisa tirwana ya phaposiborutelo yotlhe, tirwana e e kaelwang ke morutabana le ditirwana tsa ditlhopha tse dinnye tsa boikemedi (seteišenetiro). Letla batsayakarolo go dira ka ditlhopha go dira **Tirwana 12**.
- ◆ Tota sebopego sa Khutshwafatso ya Diteng tsa Beke le Beke:
 - Karoloteng, Setlhogo, Kitso e ntšhwa, Ikatise
 - Ditirwana tsa phaposiborutelo yotlhe: di dirilwe le barutwana botlhe, ditirwana di golagantswe le Karoloteng le Setlhogo, go akaretsa meetlo e e tsenyeletsang merumo/dipina, go balela kwa godimo le go bala dilo.
 - Tirwana ya setlhopha se sennye e e kaelwang ke morutabana: e totile megopolo e e tshwanetseng go rutiwa, e akaretsa setlhotshwana se sennye sa barutwana ba le barataro go ya go ba le robedi.
 - Ditirwana tsa boikemedi tsa ditlhopha tse dinnye (seteišenetiro): di tlamela ka ikatiso le tsolotanyo ya mogopolo o o tthagisiwang mo ditirwaneng tsa phaposiborutelo yotlhe le tse di kaelwang ke morutabana.
- ◆ Tlhalosa gore khutshwafatso ya diteng tsa beke le beke e tlamela ka sebopego le lethomeso la go rulaganya nako e e totilweng ya Dipalo beke le beke.

Mametlelelo B: Kgweditharo 1 Khutshwafatso ya Diteng tsa Beke le Beke (Dibeke 1-2) e tlamela ka khutshwafatso ya diteng le go neela ditshikhinyo tsa go ruta le go ithuta dipalo mo bekeng e nngwe le e nngwe ka tshedimosetso e e latelang:

- ◆ Karoloteng e e Lebeletsweng segolobogolo mo bekeng
- ◆ Se/ditlhogo tse di tshwanetseng go lebiwa
- ◆ Kitso e ntšhwa le Ikatise tse di lebeletsweng mo bekeng
- ◆ ditirwana tse di tshikhintsweng tsa phaposiborutelo yotlhe le ditlhopha tse dinnye (tirwana e e kaelwang ke morutabana le ditirwana tsa seteišenetiro) tsa 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.

Buisa ditirwana tsa phaposiborutelo yotlhe, ditirwana tse di kaelwang ke morutabana le ditirwana tsa seteišenetiro mo Mametlelong B: Kgweditharo 1 Khutshwafatso ya Diteng tsa Beke le Beke (Dibeke 1-2).



Tirwana 7

Lebelela Mametlelelo B: Kgweditharo 1 Khutshwafatso ya Diteng tsa Beke le Beke (Dibeke 1-2). Araba dipotso.

Dipotso	Beke 1	Beke 2
Karoloteng e e Lebeletsweng mo bekeng eno ke efe?	Dinomore, Ditiro le Dikamano	Dinomore, Ditiro le Dikamano
Barutwana ba tlaa bo ba ithuta megopolo efe ya bothokwa?	Go balela kwa godimo Go bala dilo	Matshwaopalo Mafokopalo
Go tlaa tlhagisiwa kitso efe e ntšhwa?	Go balela kwa godimo 1-5 Go bala dilo 1-3 Tsamaelano ya nngwe ka nngwe Ditiragalo tsa tatedisanyo	Nomoro 1 Tharabololo ya dipalo mo makaelong a letsatsi le letsatsi
Ke dikgono dife tse di diragadiwang mo Bekeng ya 2?		Go balela kwa godimo 1-5 Go bala dilo 1-3 Tlotlofoko go tswa mo Bekeng ya 1

Dintlha tsa mofatlhosi

- ◆ PPT: Ka bokhutshwane thadisa mmotlolo wa go ruta ka setlhopho sa bothano le gore nako e e totilweng ya Lenaneo la Dipalo e rulagantswe jang (ditirwana tsa phaposiborutelo yotlhe, tsa ditlhopho tse dinnye le tsa go ithophela).
- ◆ Gopotsa batsayakarolo gore go totilwe mogopolo/setlhogo se le sengwe ka nako e le nngwe go tswa mo Karoloteng e le nngwe.

Kaedi ya ditirwana: Kgweditharo 1

Dintlha tsa mofatlhosi

- ◆ Tlhalosa gore *Kaedi ya Ditirwana*: e tlamela barutabana ka ditshikhinyo tsa beke le beke tsa go ruta dipalo mo Mophatong wa R.
- ◆ PPT: Diponagalo tsa *Kaedi ya Ditirwana: Kgweditharo 1* (*Kaedi ya Ditirwana: Kgweditharo 1*, tsebe 6/7).
- ◆ Tlhalosa gore tirwana e e latelang e tlaa neela batsayakarolo tšhono ya go ithuta go le gontsi ka ga *Kaedi ya Ditirwana: Kgweditharo 1*.
- ◆ A batsayakarolo ba dire ka ditlhopho tse dinnye go wetsa **Tirwana 13** mme ba arogane ditsibogo tsa bona le setlhopho se segolo.
- ◆ Dira kgoagano magareng ga *Kaedi ya Ditirwana: Kgweditharo 1* le Khutshwafatso ya Diteng 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.

Dikaedi tsa Ditirwana di tlamela barutabana ba Mophato wa R ka sebopego le letlhomeso le go neelana ditshikhinyo tsa beke le beke tsa go ruta le go ithuta dipalo.

Lebelela Dibeke 1 le 2 mo *Kaeding ya Ditirwana: Kgweditharo 1* le Khutshwafatso ya Diteng tsa Beke le Beke mo Mametlelelong B. Wetsa Tirwana 13 mo setlhopheng sa gago.



Tirwana 8

1. Lebelela *Kaedi ya Ditirwana: Kgweditharo 1* mme o tsenye tshedimosetso mo papetleng.

Race around Kaedi ya Ditirwana: Kgweditharo 1	
Ke eng se se mo tsebeng 7, 9 le 11?	
Phousetara ya 'Melawana ya phaposiborutelo ya rona' e fitlhelwa mo tsebeng efe?	
Thadiso ya diteng tsa Kgweditharo 1 e fitlhelwa mo ditsebeng dife?	
Ke tshedimosetso efe e e fitlhelwang mo tshimologong ya beke e nngwe le e nngwe?	
Batla Kanelo ya Lelapa la Dipalo tsa Mophato wa R.	
Ke pina efe e e tlhagisiwang mo Tsebeng ya 2?	
Batla foo nomore 1 e tlhagisiwang gona.	
Batla tirwana ya phaposiborutelo yotlhe e e totileng go balela kwa godimo.	
Batla tirwana e e kaelwang ke morutabana e e totileng tsamaelano ya nngwe ka nngwe.	
Batla tirwana ya seteišenetiro e e totileng go tsolotanya mogopolopalo '1'.	

2. Lebelela ditirwana tsa phaposiborutelo yotlhe, tse di kaelwang ke morutabana le tsa seteišenetiro mo Mametlelelong B. Batla ditirwana tseno mo *Kaeding ya Ditirwana: Kgweditharo 1*.



Mo Mophatong wa R, tlhatlhobo ke e e sa tlhomamang le e e tswelolang. Re tlhoka go ela barutwana botlhe tlhoko letsatsi lotlhe, mo gare le kwa ntle ga phaposiborutelo.

Lenaneo la Dipalo le thadilwe go lebeleletse tikologo ya ditlhopha tse dinnye mo gare ga beke mme morutabana a lebelele setlhopha se le sengwe mo letsatsing, a ba lebeletse le go ba reetsa fa barutwana ba dira ditirwana tse di rileng. Nako eno a naya morutabana tšhono go ela tlhoko morutwana yo mongwe le yo mongwe ka kelotlhoko le go kokoanya tshedimosetso ka ga tswelelopele ya bona.

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.

Lebelela boloko jo bo ntshofaditsweng kwa bofelong jwa tirwana e e kaelwang ke morutabana mo Bekeng 2: **'Tlhola gore a barutwana ba kgona go'**. Setshwantsho sa leitlho se re gopotsa gore re tlhoka go ela barutwana tlhoko fa ba dira, le gore re tlhoka go reetsa ka kelotlhoko fa ba bua le rona le balekane ba bona.

A morutabana a tshware dintlha tsa morutwana yo mongwe le yo mongwe ka tlhogo mme fa barutwana ba ile gae a kwale dilo tse a di etseng tlhoko mo bukeng e e beetsweng go kwala dintlha tsa mothale ka ga barutwana mme e na le moo dintlha tsa morutwana yo mongwe le yo mongwe di ka kwalwang gona.

Buka ya Diphousetara le Kgetsana ya Didiriswa

(Metsotso e le 10)

Dintlha tsa mofatlhosi

- ◆ Tlhalosa gore *Kgetsana ya Didiriswa* e tlaa dirisiwa ka nako ya ditirwana tse di kaelwang ke morutabana le gore go na le didiriswa tse di lekanang setlhotshwana sa borataro go ya go borobedi. Gopotsa batsayakarolo ka ga diteng tsa *Kgetsana ya Didiriswa* mme o ba bontshe dilwana tse di latelang tsa didiriswa mme lo buisane gore se sengwe le se sengwe se ya go dirisiwa jang:
 - dilo tsa go bala: didisiki tse di mmalafaditsweng le dikota, dibalamaungo le dibalaphologolo, dibolokokgogedi
 - mataese
 - dibaga tsa dikago
 - dikaratapalo (matshwaopalo le mafokopalo)
 - dibolokoponagalo
- ◆ Bontsha batsayakarolo *Buka ya Diphousetara* mme o tlhalose gore go na le ditirwana mo *Kaeding ya Ditirwana* tse di dirisang *Buka ya Diphousetara* go susumetsa dipuisano le go golaganya dipalo le makaelo a a tlwaelegileng kwa sekolong, gae le mo loagong.

Kgetsana ya Didiriswa e na le didiriswa tse di lekanang setlhotshwana sa barutwana ba le barataro go ya go ba le robedi. Didiriswa tse di tlaa dirisiwang mo Kgweditharong ya 1 Dibeke 1 le 2 di akaretsa:

- ◆ dibadi: dibalaphologolo le dibalamaungo
- ◆ dikaratapalo: letshwaopalo (1) le lefokopalo (nngwe).

Dintlha tsa mofatlhosi

- ◆ Neela motsayakarolo yo mongwe le yo mongwe *Kgetsana ya Didiriswa* le *Buka ya Diphousetara*.

Mongwe le mongwe o tlaa amogela *Kgetsana ya Didiriswa* le *Buka ya Diphousetara*.

Lebelela ditsebe 6–17 tsa *Kaedi ya Ditirwana*: Kgweditharo 1 go buisa ka ga metswedi ya phaposiborutelo le go baakanya boemo jo bo siametseng go ka ithuta dipalo.

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.

Dintlha tsa mofatlhosi

- ◆ **Se o se ithutileng:** Kopa batsayakarolo go akanya ka ga se ba se ithutileng mo thutanong le go dira **Tirwana 14** ya motho ka nosi.
- ◆ **Tirwana e o e busetsang kwa sekolong:** Buisa tirwana eno. Botsa gore a go na le sengwe se se sa tlhakang mme se tlhoka go tshalosiwa gape.
- ◆ **Tlhatlhobo:** Ntsha dikhophi tsa Foromo ya Tlhatlhobo ya Thutano mme o kope batsayakarolo go e tlatsa.
- ◆ **Thutano e e latelang:** Kopa batsayakarolo go tla ka *Buka ya Diphousetara*, *Kaedi ya Mogopolo* le *Kaedi ya Ditirwana: Kgweditharo 1* mo thutanong e e latelang. Neela matlha a thutano e e latelang.
- ◆ **Rejisetara:** Gopotsa batsayakarolo botlhe go netefatsa gore ba saena rejisetara.
- ◆ Tswalela thutano.

**Tirwana 9**

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

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

**Tirwana e o e busetsang kwa sekolong**

1. Buisa ditsebe tsa *Kaedi ya Mogopolo* tse di neng di lebilwe ka nako ya thutano.
2. Dirisa *Kaedi ya Ditirwana: Kgweditharo 1* go rulaganyetsa le go diragatsa Dibeke 1–2 tsa Lenaneo la Dipalo.
3. Akanya ka moo melawana e e kaelang Lenaneo la Dipalo e nang le seabe mo go ithuteng le go ruteng mo phaposiborutelong ya gago.
4. Baakanya lefelo la dipalo. Le tshwantshe mme o tle ka setshwantshe kwa thutanong e e latelang.



Bring the following to the next workshop:

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

Evaluation

Complete the Evaluation Form.



Tlanya le tse di latelang kwa thutanong e e latelang:

- ◆ *Buka ya Diphousetara*
- ◆ *Kaedi ya Mogopolo*
- ◆ *Kaedi ya Ditirwana: Kgweditharo 1.*

Tlhatlhobo

Tlatsa Foromo ya Tlhatlhobo.

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

Term 1: Activity Plan

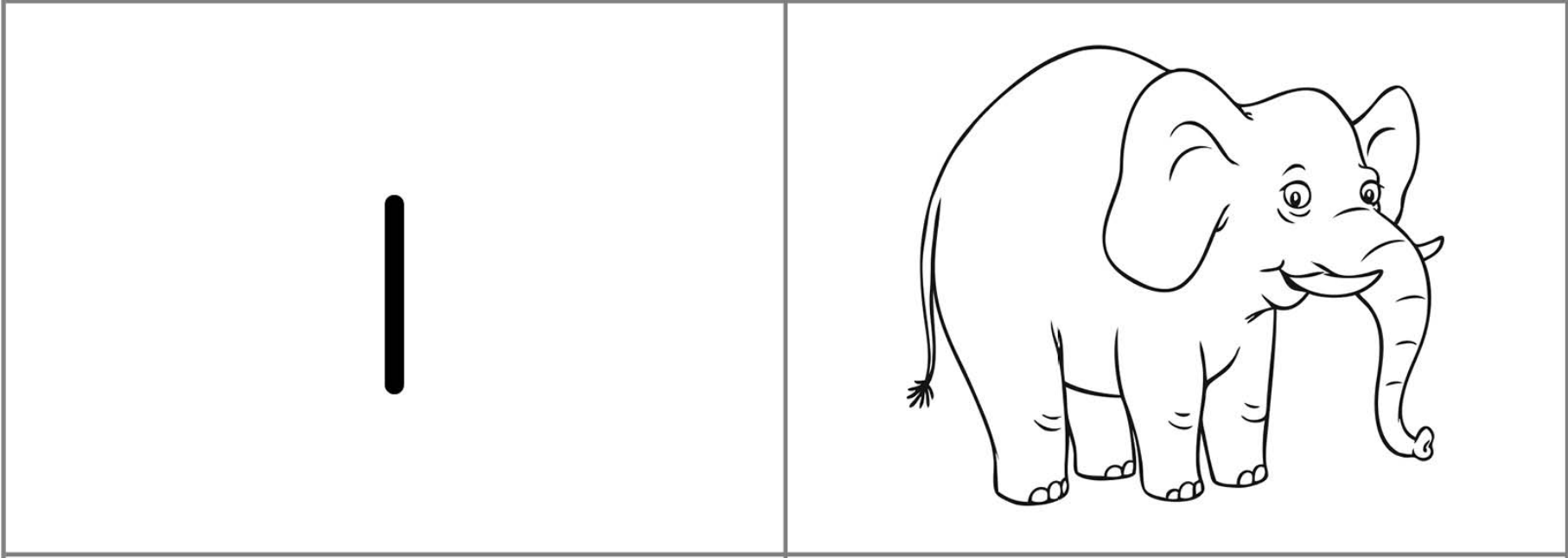
Week 1				
CONTENT AREA: NUMBERS, OPERATIONS AND RELATIONSHIPS				
TOPIC: Oral counting and counting objects				
INTRODUCE NEW KNOWLEDGE: Oral counting 1–5, counting objects 1–3, one-to-one correspondence, sequencing daily programme				
Whole class activities		Teacher-guided activity	Workstation activities	
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.			

MAMETLELELO B: KGWEDITHARO 1 KHUTSHWAFATSO YA DITENG TSA BEKE LE BEKE (DIBEKE 1-2)

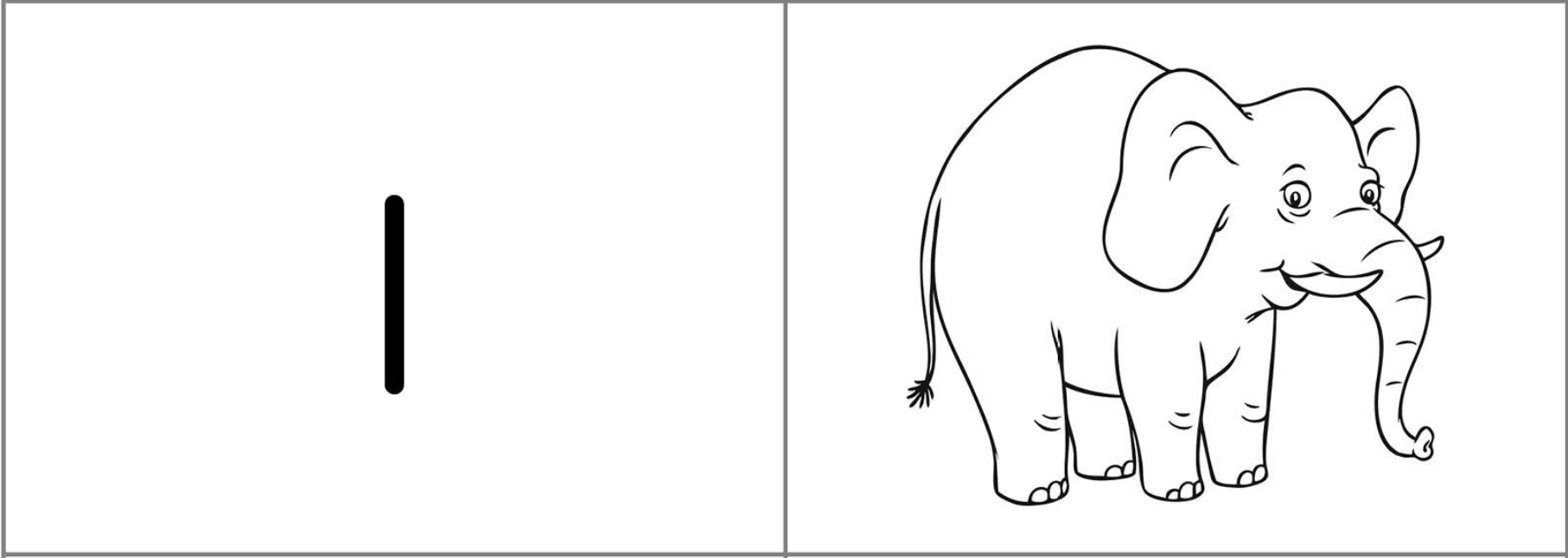
Kgweditharo 1: Thulaganyo ya ditirwana

Beke 1			
KAROLOTENG: DINOMORE, DITIRO LE DIKAMANO			
SETLHOGO: Go balela kwa godimo le go bala dilo			
TLHAGISA KITSO E NTŠHWA: Go balela kwa godimo 1-5, go bala dilo 1-3, tsamaelano ya nngwe ka nngwe, tatedisanyo ya lenaneo la letsatsi le letsatsi			
Ditirwana tsa phaposiborutelo yotlhe		Tirwana e e kaelwang ke morutabana	Ditirwana tsa seteišenetiro
Letsatsi 1	Tlwaelo, melawana ya phaposiborutelo, matshwao a barutwana le lenaeno la letsatsi le letsatsi.	Ga go na tirwana ya setlhopho e e kaelwang ke morutabana mo bekeng ya ntlha go letla morutabana go lekola diteišenetiro tsothle di le tlhano: a kaela, a thusa le go rotloetsa barutwana. Bangwe ba barutwana ba ka tswa ba ise ba ko ba dirise sediriswa le e seng go se bona ka jalo morutabana o tlaa tlhoka go ba bontsha le go ba tshegetsatsa mo maitekong a bona a ntlha.	Tirwana 1
Letsatsi 2	Tšhate ya bathusi, morumo, <i>Kanelo ya lelapa ya Dipalo tsa Mophato wa R.</i>		Tirwana 2
Letsatsi 3	Tšhate ya bathusi, Tšhate ya bophepafatsi, morumo, go balela kwa godimo le <i>Kanelo ya lelapa ya Dipalo tsa Mophato wa R.</i>		Tirwana 3
Letsatsi 4	Morumo, go balela kwa godimo, go bala dilo, go latedisanya ditiragalo tsa letsatsi le letsatsi, dijana.		Tirwana 4
Letsatsi 5	Morumo, go balela kwa godimo, matshwao a barutwana l.		Tirwana 5
Go tlhaola dibalaphologolo le dibalamaungo ka mmala (go tswa mo <i>Kgetsaneng ya didiriswa</i>).			
Tege ya go tshameka kgotsa mmotlolo wa letsopa.			
Thala setshwantsho.			
Phazele ya dikarolo di le thataro.			
Diboloko tsa mapolanka.			
Beke 2			
KAROLOTENG: DINOMORE, DITIRO LE DIKAMANO			
SETLHOGO: Matshwaoplao le mafokopalo			
TLHAGISA KITSO E NTŠHWA: Tlhagisa nomore 1, go rarabolola dipalo mo bokaelong jwa letsatsi le letsatsi (merumo le diphousetara)			
IKATISE: Go balela kwa godimo 1-5, go bala dilo 1-3, tlotlofoko e e tswang mo bekeng e e fetileng			
Tirwana e e kaelwang ke morutabana		Tirwana e e kaelwang ke morutabana	Ditirwana tsa seteišenetiro
Letsatsi 1	Pina, go balela kwa godimo, tlhagisa nomore 1 le nomorekgabisi 1, dirwe tsa mmele ('di kae?' metshameko), batla selo se le sengwe.	Tshegetsatsa barutwana mo maitekong a bona a go wetsa ditirwana. Ba botse dipotso tse di kaelang mme o ba rotloetse go arogana dikakanyo. Bala dilo: tsamaelano ya nngwe ka nngwe. Tlhaolsa dibalaphologolo go ya ka mebala. Nyalanya letshwao la nomore 1 le dikaratafoko le dikaratarontho le dibalaphologolo.	Tirwana 1
Letsatsi 2	Pina, go balela kwa godimo, kgabisi ya nomore 1, dirwe tsa mmele.		Tirwana 2
Letsatsi 3	Pina, go balela kwa godimo, go bala dilo, gatelela nomore 1, batla selo se le 1.		Tirwana 3
Letsatsi 4	Morumo, go balela kwa godimo, kanelo ya phousetara ya go rarabolola dipalo.		Tirwana 4
Letsatsi 5	Morumo, go balela kwa godimo, go bala dilo mo phousetareng, go rarabolola dipalo.		
Go nyalanya dibadi le marontho ka go dirisa mabokoso a mae.			
Dira selo sa tege ya go tshameka mme o bo o se thale.			
Thempoleiti ya 'Nngwe' ka go dirisa tege ya go tshameka.			
Diboloko tsa mapolanka.			

APPENDIX C: NUMBER 1 FRIEZE CARDS



MAMETLELELO C: DIKARATAKGABISI TSA NOMORE 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 Tlhatlhubo ya Thutano 1

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

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

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

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

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