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GROWING GAUTENG TOGETHER

Sepedi/English

Lenaneo la go Kaonafatša Thuto ya Dipalo Mphatong wa R Grade R Mathematics Improvement Programme



Thutofatlhošo ya 7 • Workshop 7
Pukutšhomo ya Motšekarolo • Participant's Workbook

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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Lenaneokaonafatšo la Thuto ya Dipalo Mphatong wa R ke morero wa Kgoro ya Thuto ya Gauteng (**Gauteng Department of Education**) le badirišanimmogo ba bohlokwa e lego **Gauteng Education Development Trust**.

Tšweletšo le kgatišo ya tlhahlo le dithušathuto tša phapoši tša Lenaneokaonafatšo la Thuto ya Dipalo Mphatong wa R e kgontšhitšwe ke thušo ka mašelang go tšwa go **United States Agency for International Development** le **Zenex Foundation**.

Lenaneokaonafatšo la Thuto ya Dipalo Mphatong wa R le laolwa ke **JET Education Services** gammogo le **Schools Development Unit** ya **UCT** le **Wordworks** bjalo ka badirišani ba sethekniki.

Schools Development Unit (SDU) kua **University of Cape Town (UCT)** ke badirišani ba sethekniki ba dipalo go Lenaneokaonafatšo la Thuto ya Dipalo Mphatong wa R. SDU ke uniti ya UCT ya School of Education yeo e hlokometšego tlhahlo le kgodišo ya dithuto tša Dipalo, Saense, Bokgoni bja go ngwala le go bala/Polelo le Mabokgoni a Bophelo go tloga go Mphato wa R go fihla go wa 12. SDU e aba dithuto tša tlhahlo ya barutiši le mangwalo a UCT a dithuto tše kopana tša tlaleletšo, tlhahlo ya mošomo yeo e ka dirwago sekolong, bongwadi bja dipuku le go dira dinyakišišo tšeo di thekgago go ithuta le go ruta mabakeng a go fapana dikolong tša Afrika Borwa.

DITEBOGO

Di lebišwa go:

- Bašomi ba Kgoro ya Thuto ya Gauteng Lefapha la Lenanethuto, Tlhahlo ya Barutiši le bašomedi ba Lefapha la Thuto ya go Ikgetha, ka maele a bona phetagatšong ya setšweletšwa se sa rena.
- Bašomi ba Western Cape Education Department (WCED) le barutiši ka maele a bona tšweletšong le tsentšhotirišong ya Grade R Mathematics Programme (*R-Maths*) profenseng ya Kapa Bodikela magareng ga mengwaga ya 2016 le 2019.
- Sehlopha sa bangwadi ba *R-Maths*: Bašomi le baeletši ba SDU.



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Overview

Purpose

This is the seventh of twelve Grade R Mathematics Improvement Programme workshops, which form part of the Gauteng Department of Education (GDE) Grade R Mathematics and Language Improvement Project.

The purpose of this workshop is to continue assisting teachers to implement the Maths Programme in their classrooms. Participants will have the opportunity to reflect on their observations. They will explore how the guiding principles of teaching maths in Grade R should inform their planning, teaching and assessment. They will also consider learner progress, and individual developmental and learning needs. The workshop explores the content for Term 3 Weeks 1–3 and its classroom implementation.

References to the Grade R Mathematics Content Areas are taken from the *Curriculum and Assessment Policy Statement (CAPS): Grade R Mathematics (Final Draft)*, 2011, Department of Basic Education, South Africa.

Learning outcomes

- ◆ To reflect on the implementation of Term 2 Weeks 8–10
- ◆ To apply the Maths Programme principles in weekly planning
- ◆ To explore play-based strategies to support teaching maths in Grade R
- ◆ To identify potential barriers to learning
- ◆ To introduce perceptual and motor development
- ◆ To engage with the Maths Programme content of Term 3 Weeks 1–3 (Patterns, Functions and Algebra; Numbers, Operations and Relationships)

Workshop content

- ◆ Opening and reflection (30 minutes)
- ◆ Session 1: Setting the scene (30 minutes)
- ◆ Session 2: Play-based teaching and learning (1 hour)

TEA

- ◆ Session 3: The Grade R maths learning environment (30 minutes)
- ◆ Session 4: Factors affecting maths learning (30 minutes)
- ◆ Session 5: Perceptual and motor development (1 hour)

LUNCH

Kakaretšo

Morero

Ye ke thutofatlhošo ya bošupa ya tše lesomepedi tša Lenaneo la go Kaonafatša Thuto ya Dipalo Mphatong wa R (Lenaneo la Dipalo), ye e lego karolo ya Kgoro ya Thuto Profenseng ya Gauteng (GDE) Lenaneokaonafatšo la Thuto ya Dipalo le ya Leleme Mphatong wa R.

Morero wa thutofatlhošo ke go thuša barutiši go phethagatša Lenaneo la Dipalo ka diphapošing tša bona. Batšeakarolo ba tlo hwetša monyetla wa go naganiša tše ba di bonego. Ba tla hlohloimiša ka fao ditheo tša go ruta dipalo Mphatong wa R di swanetšego go laola peakanyo ya bona, go ruta le tekolo. Ba tlo nagana le ka tšwelopele ya morutwana, le ditlhoko tša tllhabologo le go ithuta ga morutwana. Thutofatlhošo e hlohloimiša diteng tša Kotara ya 1 Dibeke tša 1–3 le phethagatšo ya yona ka phapošing.

Ditšhupetšo go Dikarolo tša Diteng tša Dipalo Mphatong wa R di tšwa ka go *Setatamente sa Pholisi sa Lenaneothuto le Kelo (SEPHOLEKE)*: Thuto ya Dipalo Mphatong wa R (*Kakanywa ya Mafelelo*), 2011, Kgoro ya Thuto ya Motheo, Afrika Borwa.

Dineo tša thuto

- ◆ Go naganiša ka phethagatšo ya Kotara ya 2 Dibeke tša 8–10
- ◆ Go diriša ditheo tša Lenaneo la Dipalo peakanyong ya beke ka beke
- ◆ Go hlohloimiša mekgwa ya go akaretša papadi go thekga thuto ya dipalo ka Mphatong wa R
- ◆ Go hlatha mapheko mo go ithuteng
- ◆ Go tsebiša kgopolo le tshepetšo ya ditho tša mmele
- ◆ Go šomana le diteng tša Lenaneo la Dipalo tša Kotara ya 3 Dibeke tša 1–3 (Dipatrone, Difankšene le Altšebra; Dinomoro, Tirišo le Tswalano)

Diteng tša thutofatlhošo

- ◆ Pulo le go naganiša (Metsotso ye 30)
- ◆ Thuto ya 1: Go beakanya (Metsotso ye 30)
- ◆ Thuto ya 2: Mokgwa wa go go ruta le go ithuta ka dipapadi (Iri e 1)

TEYE

- ◆ Thuto ya 3: Tikologo ya go ithuta dipalo ka Mphatong wa R (Metsotso ye 30)
- ◆ Thuto ya 4: Mabaka a go ama go ithuta dipalo (Metsotso ye 30)
- ◆ Thuto ya 5: Kgopolo le tshepetšo ya ditho tša mmele (Iri e 1)

MATENA

- ◆ Session 6: Planning for teaching
- ◆ Closing activities

(1½ hours)
(30 minutes)

- ◆ Thuto ya 6: Go beakanyetša go ruta
- ◆ Mešongwana ya go tswalela

(Iri e 1½)
(Metsotso ye 30)

Opening and reflection

30 minutes

The post box

Some of your issues and questions may not be addressed during this workshop. Write down any concerns or questions you may have during the workshop and post them in the post box. Your facilitator will make sure that these are addressed.

Here is the *Take back to school task* from Workshop 6.



Take back to school task (Workshop 6)

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

It is important for you to reflect on your teaching practices as this will help you to better understand why things happened as they did. You can find ways to do things differently and improve your teaching.

There will be many opportunities during these workshops to reflect on your successes and challenges with implementing the Maths Programme. We would like you to start the reflective process by spending a few minutes sharing your experiences of implementing Term 2 Weeks 8–10 based on the *Take back to school task*.



Activity 1

1. In your group, share your experiences of implementing Term 2 Weeks 8–10.

2. Share your successes and challenges with the large group.

Lepokisi la poso

A mangwe a mathata le dipotšišo tše o nago le tšona di kase rarollwe ka thutofatlhošong ye. Ngwala tše di sa o fetišego gabotse le dipotšišo tše o nago le tšona ka thutofatlhošong ye gomme o di pose ka lepokising la poso. Monolofatši o tlo kgonthiša gore o šomana le tšona.

Fa ke *Mošomo wo o tlo boelago le wona sekolong* wa Thutofatlhošo ya 6.



Mošomo wo o tlo boelago le wona sekolong (Thutofatlhošo ya 6)

1. Diriša *Pukutlahlo ya Mešongwana: Kotara ya 2* go beakanya le go phethagatša Dibeke tša 8–10 tša Lenaneo la Dipalo.
2. Ngwala tekolo ya tše di šomilego gabotse, le tše di sa šomago gabotse le se o ka se dirago seo se fapanego go kaonafatša go ruta le go ithuta.
3. O tle le tekolo ya gago thutofatlhošong ya go latela.

Go bohlokwa gore o naganiše ka ditlwaelo tša gago tša go ruta ka gobane di tlo go thuša go kwešiša gore ke ka lebaka la eng dilo di diregile ka tsela ye di diregilego ka yona. O ka hwetša ditsela tše di fapanego tša go dira dilo gomme wa kaonafatša mokgwa wa gago wa go ruta.

Mo dithutofatlhošong tše go tlo ba le menyetla ye mentši ya go naganiša ka dikatlego le ditlhohlo tša gago ge o phethagatša Lenaneo la Dipalo. Re nyaka o thome go naganiša ka go fetša metsotso ye mmalwa o abelana ka maitemogelo a gago a go phethagatša Kotara ya 2 Dibeke tša 8–10 go ya ka *Mošomo wo o tlo boelago le wona sekolong*.



Mošongwana wa 1

1. Sehlopheng sa gago, abelanang ka maitemogelo a go phethagatša Kotara ya 2 Dibeke tša 8–10.

2. Abelana le sehlopha se segolo ka dikatlego le ditlhohlo tša gago.

Session 1: Setting the scene

30 minutes

Maths in the school context

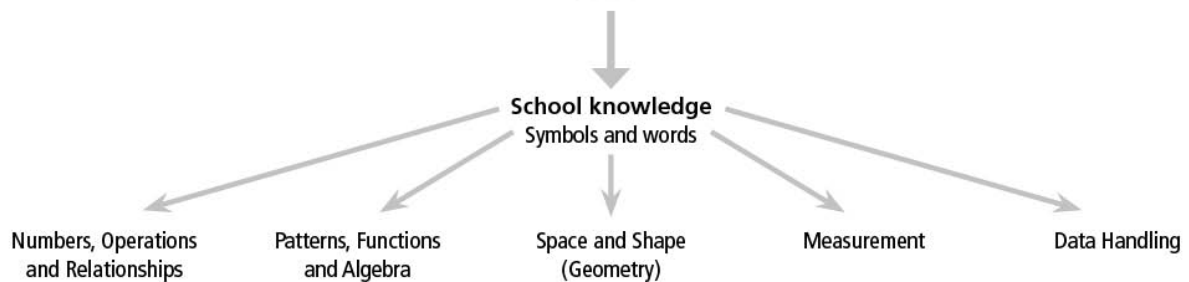
It is important to provide maths' experiences for Grade R learners that relate to their everyday lives.

Read the **context principle** on pages 16–25 of the *Concept Guide*.

The **context principle**: Learning takes places daily in classroom and home situations (contexts) that are meaningful to learners.

Learners come to school with an understanding of the world around them that is based on their own experiences. This is called everyday knowledge. At school, children build on this. We call this school knowledge. Let's look at the diagram below and think more about how learners build on their everyday knowledge.

Everyday knowledge
comparing, sorting, matching,
saying number names, learning
about more/less, bigger/smaller,
light/heavy



Thuto ya 1: Go beakanya

Metsotso ye 30

Dipalo kamanong ya sekolo

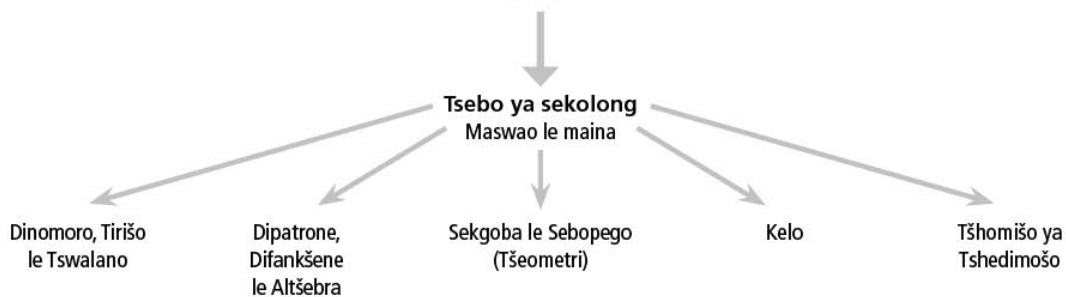
Go bohlokwa go nea barutwana ba Mphato wa R maitemogelo a dipalo a go tswalana le maphelo a bona a ka mehla.

Bala ka ga **setheo sa dikamano** matlakaleng a 16–25 ka go *Pukutlhahlo ya Mareo*.

Setheo sa dikamano: Go ithuta go diragala tšatši ka tšatši mabakeng a ka phapošing le a ka gae (dikamano) a go ba bohlokwa barutwaneng.

Barutwana ba tla sekolong ba kwešiša lefase la bona go ya ka maitemogelo a bona. Se se bitšwa tsebo ya ka mehla. Sekolong, barutwana ba aga godimo ga se. Re se bitša tsebo ya sekolong. A re lebelele seswantšho sa ka tlase re nagana ka tsela ye barutwana ba agago godimo ga tsebo ya ka mehla.

Tsebo ya ka mehla
bapetša, hlaola, swantšha, go
bolela leina la nomoro, go ithuta
ka bontši le bonnyane, bogolo le
bonnyane, bofelo le boima





Activity 2

1. What everyday knowledge have the learners in your class demonstrated?

2. How have you built on this knowledge in your daily maths programme at school?



Mošongwana wa 2

1. Na barutwana ba ka phapošing ya gago ba bontšhitše tsebo ya ka mehla efe?

2. Na o agile godimo ga tsebo ye lenaneong la dipalo la tšatši ka tšatši sekolong?

Session 2: Play-based teaching and learning 1 hour

The Curriculum and Assessment Policy Statement (CAPS): Grade R Mathematics, encourages a play-based, active approach to teaching and learning. This is in line with current research and understanding about how children learn. The Maths Programme supports the use of play to inform lesson planning and assessment.

The **play principle**: This principle promotes the idea that children learn best in free-play and guided-play activities and encourages indoor and outdoor play-based activities.

Read the **play principle** on pages 28–33 of the *Concept Guide*.



Watch the video of a group of children engaged in different types of play.

Identify the five types of play explained on page 28 of the *Concept Guide*.

The play continuum

A continuum is a series of things that are slightly different from one another that lie somewhere between two different points.

Play inside and outside the classroom can take different forms, ranging from free play initiated and directed by the learners, to playful instruction that is initiated and directed by the teacher.

Thuto ya 2: Mokgwa wa go ruta le go ithuta ka dipapadi

Iri e 1

Setatamente sa Pholisi sa Lenaneothuto le Kelo (SEPHOLEKE): Thuto ya Dipalo Mphatong wa R, e hlohloletša mokgwa wa dipapadi, le go tšea karolo mo go ruteng le go ithuteng. Se se sepelelana le dinyakišišo tša bjale le go kwešiša gore bana ba ithuta bjang. Lenaneo la Dipalo le thekga tirišo ya papadi gore e laole peakanyo ya thuto le tekolo.

Setheo sa dipapadi: Setheo se se godiša kgopolo ya gore bana ba ithuta bokaonekaone ka dipapadi tša go bapalwa ntle le go šetšwa le dipapadi tša go šetšwa le go hlohloletša dipapadi tša go bapalwa ka gare ga phapoši le ka ntle ga phapoši.

Bala **setheo sa dipapadi** matlakaleng a 28–33 ka go *Pukutlhahlo ya Mareo*.



Bideo 1

Bogela bideo ya sehlopha sa bana ba swaragane le mehuta ya dipapadi ya go fapana.

Hlatha mehuta ye mehlano ya dipapadi ya go hlalošwa letlakaleng la 29 ka go *Pukutlhahlo ya Mareo*.

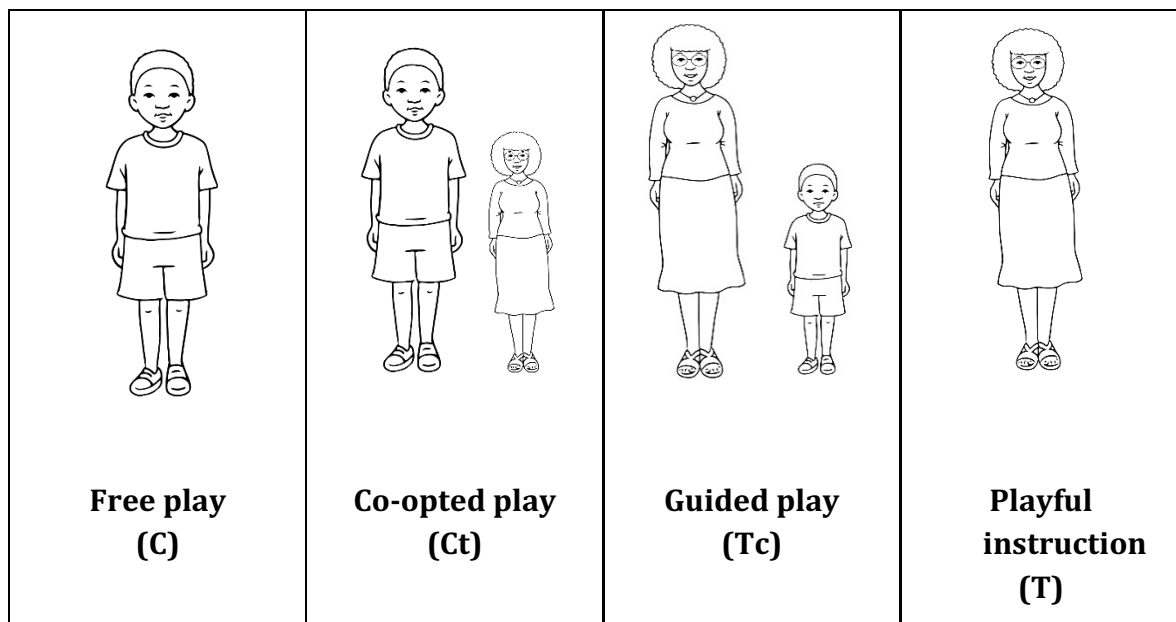
Khonthinamo ya dipapadi

Khonthinamo ke molokoloko wa dilo tša go fapana gannyane tša go ba gare ga dilo tše pedi.

Papadi ya ka gare le ka ntle ga phapoši e ka ba ka ditsela tša go fapana, go thoma ka dipapadi tšeo ba ipapalelago ntle le go šetšwa ya go thongwa le go hlahlwa ke barutwana, go ya go taelo ya papadi ya go thongwa le go hlahlwa ke morutiši.

A play-based approach to teaching and learning recognises that sometimes children learn best from free-play activities initiated and directed by the child without adult involvement. At other times children learn best from guided-play activities that are directed by the teacher for the whole class or in small groups.

The forms of play described below are closely related. Although they are illustrated as separate, very often one form of play changes into another form as the teacher and the children take on different roles.



Free play (C)

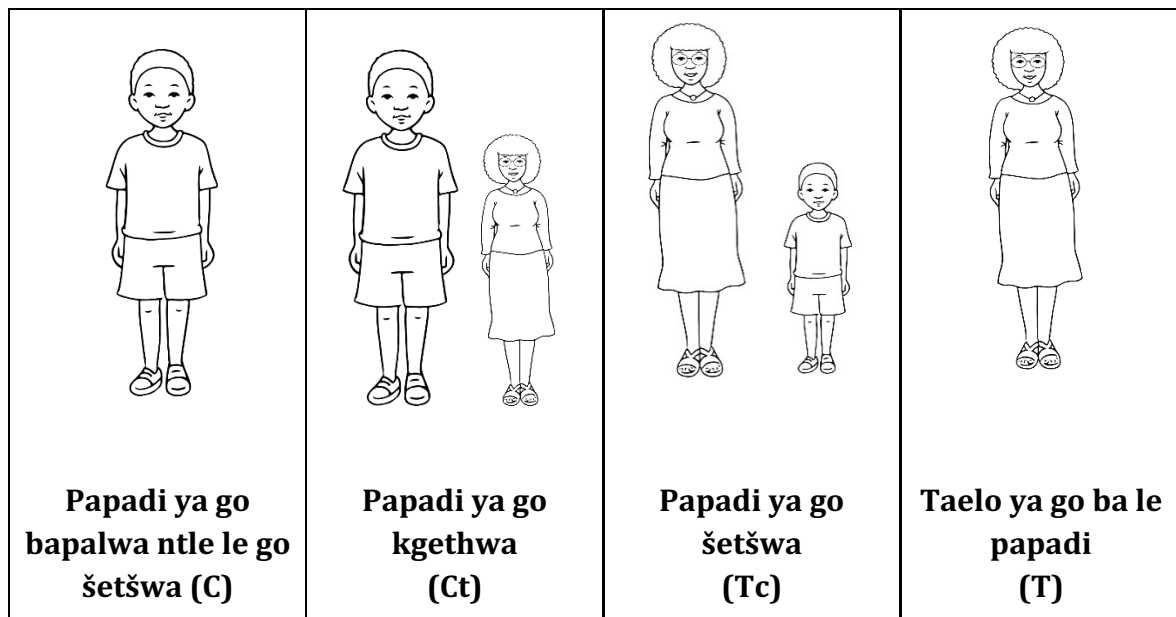
The child initiates and directs all of the play. The child decides and organises when, where, what and how to play, and who is playing. The teacher does not intervene or engage with the playing children. The teacher follows the direction set by the child.

Co-opted play (Ct)

The child initiates and directs most of the play. The teacher occasionally intervenes in the children's play in order to extend the children's learning, e.g., by asking a question, making a suggestion or adding extra apparatus.

Mokgwa wa go ruta le go ithuta ka dipapadi o dumela gore ka nako ye nngwe bana ba ithuta ka dipapadi tšeo ba ipapalelago ntle le go šetšwa ya go thongwa le go hlahlwa ke ngwana go se motho yo mogolo yo a tšeago karolo. Ka nako ye nngwe barutwana ba ithuta dipapading tša go šetšwa tšeo di hlahlwago ke morutiši go phapoši ka moka goba dihlopha tše dinnyane.

Mehuta ya dipapadi ye e hlalošwago ka fase e tswalane kudu. Le ge e hlagišitšwe e kgaogane, gantši mohuta o tee wa papadi o a fetoga ya ba mohuta o mongwe ge morutiši le bana ba bapala dikarolo tša go fapana.



Papadi ya go bapalwa ntle le go šetšwa (C)

Ngwana o thoma le go hlahlwa papadi ka moka ga yona. Ngwana o nagana le go rulaganya gore go tlo bapalwa neng, kae, eng, bjang le gore go bapala mang. Morutiši ga a tsene bana ba go bapala gare. Morutiši o latela taelo ya ngwana.

Papadi ya go kgethwa (Ct)

Ngwana o thoma le go hlahlwa karolo ye kgolo ya papadi. Morutiši ka nako ye nngwe o tsena papadi ya bana gare go godiša go ithuta ga bana, mohl, ka go botšiša potšišo, go dira tšhišinyo goba go tsenya didirišwa tša tlaleletšo.

Guided play (Tc)

The teacher initiates and directs most of the children’s play by setting out specific activities, e.g., creative art, small group activities or an obstacle course. The children have some control because they can decide which activity they want to do or how they would like to do the activity.

Playful instruction (T)

The teacher initiates and directs all the play. The teacher plans the activity with a particular teaching/learning purpose in mind, e.g., a story that teaches listening skills, matching counters to number symbols, or sorting shapes. The child follows the direction set by the teacher.



Activity 3

In your group, discuss the following questions related to play.

1. How does *free play* provide opportunities to extend learning?

2. According to the play continuum, what is the difference between *guided play* and *playful instruction*?

3. Look at the teacher-guided activity of pages 32–35 of *Activity Guide: Term 3*.
 - ◆ Discuss how the five activities are intentionally planned around a particular curriculum skill/concept.

Papadi ya go šetšwa (Tc)

Morutiši o thoma le go hlahla karolo ye kgolo ya papadi ya bana ka go beakanya mešongwana ye itšego, mohl, bokgabo bja boitlhamelo, mešomo ya sehlopha se sennyane goba lepatlelo la ditšhitišo. Bana ba na le taolo ka gobane ba ka tšea sephetho sa gore ba nyaka go dira mošongwanwa ofe goba ba nyaka go dira mošongwana bjang.

Taelo ya go ba le papadi (T)

Morutiši o thoma le go hlahla papadi ka moka ga yona. Morutiši o beakanya papadi ka nepišo ya morero wo itšego wa go ruta/ithuta ka monaganong, mohl, kanegelo ya go ruta mabokgoni a go theeletša, go tswalanya dibaledi le maswao a dinomoro, goba go hlaola dibopego. Ngwana o latela taelo ya morutiši.



Mošongwana wa 3

Sehlopheng sa gago, ahlahlang dipotšišo tše di latelago tša go tswalana le papadi.

1. Na *papadi ya go bapalwa ntle le go šetšwa* e neelana bjang ka menyetla ya go oketša go ithuta?

2. Go ya ka khonthinamo ya papadi, phapano ke eng magareng ga *papadi ya go šetšwa* le *taelo ya go ba le papadi*?

3. Lebelela mošongwana wa go hlahlwa ke morutiši matlakaleng a 32–35 ka go *Pukutlhahlo ya Mešongwana: Kotara ya 3*.

- ◆ Ahlaahlang ka fao mešongwana ye mehlano e beakantšwego ka maikemišetšo gore e akaretše mabokgoni a kharikhulamo a itšego/lereo.

- ◆ How does the teacher use questions to prompt the learners 'playfully' during the activities?

- ◆ How does this assist the teacher with her observation for informal assessment?

- ◆ Morutiši o diriša dipotšišo bjang go hlohleletša barutwana ka mokgwa wa 'papadi' ka nako ya mešongwana?

- ◆ Se se thuša tlhokomelo ya morutiši bjang ge a dira tekolo ye e sego ya semmušo?

Session 3: The Grade R maths learning environment

30 minutes

The Grade R maths learning environment should support learning through play. A well-planned teaching and learning programme should include a balance of all the different types of play activities.



Activity 4

Look at the photograph of a Grade R classroom.



1. Think about what you know about how young children learn. Discuss whether the learning environment in the photograph is appropriate for Grade R.

2. How could you improve this learning environment?

Thuto ya 3: Tikologo ya go ithuta dipalo ka Mphatong wa R

Metsotso ye 30

Tikologo ya go ithuta dipalo ka Mphatong wa R e swanetše go thekga go ithuta ka go bapala. Lenaneo la go ruta le go ithuta leo le beakantšwego gabotse le swanetše go akaretša tekanyetšo ya mehuta ka moka ya go fapana ya mešongwana ya dipapadi.



Mošongwana wa 4

Lebelela seswantšho sa phapoši ya Mphato wa R.



1. Nagana ka se o se tsebago mabapi le tsela yeo bana ba bannyane ba ithutago ka yona. Ahlaahlang ge eba tikologo ya go ithuta ya mo seswantšhong e loketše Mphato wa R.

2. O ka kaonafatša bjang tikologo ye ya go ithuta?

3. Evaluate your own learning environment.

Tick ✓

Is the classroom inviting?	
Is the space organised so that learners can gather in large groups for whole class sessions, and also work in teacher-guided and other small group activities?	
Are there free choice activity areas where learners can choose their own activities, explore, investigate and solve problems?	
Are learners able to be active in their own learning, and explore things around them through their five senses?	
Are learners able to work together, and talk, listen and learn from one another?	
Are the materials placed so that learners can help themselves?	
Are learners able to move around freely from one activity to another?	
Are the daily programme, weather chart, posters and learners' work displayed at learners' eye level?	
How have you organised the maths environment? Do you have: <input type="checkbox"/> a maths area <input type="checkbox"/> number friezes <input type="checkbox"/> the <i>Poster Book</i> displayed <input type="checkbox"/> a <i>Resource Kit</i> <input type="checkbox"/> tubs for each learner <input type="checkbox"/> the learners' work displayed	
How have you integrated maths in the free choice activities? Do you have: <input type="checkbox"/> construction toys <input type="checkbox"/> books <input type="checkbox"/> fantasy play <input type="checkbox"/> puzzles <input type="checkbox"/> art <input type="checkbox"/> sand and water <input type="checkbox"/> outdoor play <input type="checkbox"/> educational games <input type="checkbox"/> a collection of recycled materials, e.g. plastic tubs and lids Other: _____	
What challenges do you face in setting up your Grade R environment?	
Would you make any changes?	

3. Lekola tikologo ya gago ya go ithuta.

Swaya ✓

Na phapoši e tanya šedi?	
Na sekgoba se beakantšwe gore barutwana ba ka kgobokana ka dihlopha tše dikgolo ka nako ya dithuto tša dihlopha tše dikgolo, le go dira mešongwana ya go hlahlwa ke morutiši le mešongwana ye mengwe ya dihlopha tše dinnyane?	
Na go na le dikarolo tša mošongwana wa go ikgethela fao barutwana ba ka ikgethelago mešongwana ya bona, ba hlohlomiša le go rarolla mathata?	
Na barutwana ba kgona go ba le mafolofolo go ithuteng ga bona, le go hlohlomiša dilo tša go ba dikologa ka dikwi tša bona tše hlano?	
Na barutwana ba kgona go šoma mmogo, le go bolela, go theeletša le go ithuta go ba bangwe?	
Na didirišwa di beilwe ka tsela yeo barutwana ba tlogo kgona go itšeela tšona?	
Na barutwana ba kgona go sepela ka go lokologa go tšwa mošongwaneng go ya go o mongwe?	
Na lenaneo la tšatši ka tšatši, tšhate ya boso, diphoustara le mešomo ya barutwana di beilwe fao barutwana ba kgonago go di bona?	
Na o beakantše tikologo ya dipalo? O na le: <input type="checkbox"/> sebaka sa dipalo <input type="checkbox"/> ditšhate tša tlotlontšu ya dinomoro <input type="checkbox"/> Puku ya Diphoustara e bontšhitšwe <input type="checkbox"/> Dithušathuto tša Phapoši <input type="checkbox"/> seswaro sa morutwana yo mongwe le yo mongwe <input type="checkbox"/> mešomo ya barutwana e bontšhitšwe	
O tsentše dipalo bjang ka mešongwaneng ya go ikgethela? O na le: <input type="checkbox"/> dibapadišwa tša go aga <input type="checkbox"/> dipuku <input type="checkbox"/> thaloko ya boithabišo <input type="checkbox"/> marara <input type="checkbox"/> bokgabo <input type="checkbox"/> santa le meetse <input type="checkbox"/> papadi ya ka ntle <input type="checkbox"/> dipapadi tša thuto <input type="checkbox"/> mokgobo wa dilo tša go dirišwa leswa, mohl, diswaro tša polastiki le dikhurumelo Se sengwe: _____	
O lebana le ditlhohlo dife ge o beakanya tikologo ya Mphato wa R?	
Go na le diphetogo tše o ka di dirago?	

Session 4: Factors affecting maths learning

30 minutes

The **inclusivity principle**: All learners have a right to feel special, participate and be included in classroom activities and discussions. This includes children who have disabilities, behavioural issues or other barriers to learning.

Barriers to learning maths

Many learners experience barriers to learning maths that are the result of a range of factors. Let's take a closer look at some of the barriers to learning that learners may experience. Look at Figure 29 on page 58 of the *Concept Guide*.



Activity 5

Make a list of the kinds of barriers that learners in your class are experiencing that impact on their learning.

With careful planning and in collaboration with families and other support people, learners with special developmental needs can participate fully in the Grade R programme.



Activity 6

In your group, share your experiences about learners who are experiencing barriers to learning maths. Choose a learner who is not successfully coping with classroom tasks and activities. Attempt to answer these questions.

1. What is the barrier to learning?

Thuto ya 4: Mabaka a go ama go ithuta dipalo

Metsotso ye 30

Setheo sa karetšo: Barutwana ka moka ba na le tokelo ya go ikwa ba kgethegile, ba tšea karolo le go akaretšwa mešongwaneng ya ka phapošing le dipoledišanong. Go akaretšwa barutwana ba go se itekanele mebeleng, ba mathata a maitshwaro goba mapheko a go ithuta a mangwe.

Mapheko a go ithuta dipalo

Barutwana ba bantši ba itemogela mapheko a go hlolwa ke dilo tša go fapana ge ba ithuta dipalo. A re lebelele a mangwe a mapheko a go ithuta ao barutwana ba ka itemogelago ona. Lebelela Seswantšho 29 letlakaleng la 59 ka go *Pukutlhahlo ya Mareo*.



Mošongwana wa 5

Ngwala lenaneo la mehuta ya mapheko ao barutwana ba phapoši ya gago ba itemogelago ebile a ba palediša go ithuta.

Ka peakanyo ye e dirilwego ka tlhokomelo le tirišano le batswadi le batho ba bangwe ba go abelana ka thekgo, barutwana ba go ba le ditlhoko tša tlabollo tša go kgethega, ba ka tšea karolo ka botlalo lenaneong la Mphato wa R.



Mošongwana wa 6

Ka dihlopha, abelanang ka maitemogelo a lena a barutwana ba go ba le mapheko a go ithuta dipalo. Kgetha morutwana wa go swarišwa bothata ke mešomo ya phapoši le mešongwana. Leka go araba dipotšišo tše.

1. Lepheko la go ithuta ke eng?

2. What are the learner's learning needs?

3. What support is needed?

4. What steps could you take to minimise the barrier to learning so that the learner can participate more successfully in Grade R maths?

5. If you cannot identify the barrier, the learning needs or the support required, who could you consult?

Read some of the ways you can include all learners in the Grade R classroom on page 60 of the *Concept Guide*.

Remember that it is important to identify barriers to learning as early as possible so that a plan can be put in place to address a learner's individual developmental and learning needs. Your ongoing observations of learners' progress will help you recognise any potential gaps in their learning and also help you plan ways to address these.

2. Ditlhoko tša barutwana tša go ithuta ke dife?

3. Go hlokega thekgo efe?

4. O ka tšea dikgato dife go fokotša mapheko a go ithuta gore morutwana a tšee karolo gabotse dipalong tša Mphato wa R?

5. Ge o sa kgone go hlatha lepheko, ditlhoko tša go ithuta goba thekgo ye e hlokegago, o ka ikgokaganya le mang?

Bala ka mekgwa ye mengwe ya go akaretša barutwana ka moka ba phapoši ya Mphato wa R letlakaleng la 61 ka go *Pukutlhahlo ya Mareo*.

O gopole gore go bohlokwa go hlatha mapheko a go ithuta ka pela ka mo go kgonegago gore go dirwe leano la go šomana le ditlhoko tša tšhabologo le go ithuta ga morutwana. Tlhokomelo ye e tšwelago pele ya tšwelopele ya morutwana e tlo go thuša go lemoga dikgoba tše di ka bago gona mo go ithuteng gomme wa kgona go beakanya ka fao o ka šomanago le tšona.

Session 5: Perceptual and motor development

1 hour

Perception develops through information that is gathered from the senses of touch, sight, smell, taste and hearing, and helps children to learn about the world. Motor development unfolds with perceptual development – as children use their motor skills to move through the environment, they gather information with their senses.

Perceptual and motor skills are very important for learning maths. They include:

- ◆ visual perception
- ◆ auditory perception
- ◆ tactile and kinaesthetic perception.

Visual perception

Visual perception is the ability to use what the eyes see and to interpret this visual information. There are different categories of visual perceptual skills.



Activity 7

The following are scenarios that illustrate visual perceptual skills in young children.

1. Read the information on visual perception on pages 64–67 of the *Concept Guide* and identify which visual perceptual skills the children below are practising.
 - ◆ Welekazi is playing in the fantasy play area. She looks for and finds her favourite red shoes amongst all the other shoes in the wardrobe.

 - ◆ The teacher makes a pattern of different coloured beads on a string. Leah makes her own string of beads by repeating the pattern her teacher has made.
-

Thuto ya 5: Kgopolo le tshepetšo ya ditho tša mmele

Iri e 1

Kgopolo e godišwa ke tshedimošo ya go tšwa dikwing tša go kgoma, go bona, go nkgelela, go kwa tatso le go kwa, gomme di thuša bana go ithuta ka ga lefase. Tshepetšo ya ditho tša mmele e direga le kgopolo – ge bana ba diriša tshepetšo ya mmele ba sepela tikologong, ba kgoboketša tshedimošo ka dikwi tša bona.

Kgodišo ya monagano le tshepetšo ya ditho di bohlokwa mo go ithuteng dipalo. Di akaretša:

- ◆ temogo ya pono/go bona
- ◆ temogo ya go kwa
- ◆ temogo ya go kwa ka go phopholetša/kgwatha.

Temogo ya pono/go bona

Temogo ya pono/go bona ke bokgoni bja bjoko go šomiša seo mahlo a se bonago go sekaseka tshedimošo. Go na le dihlopha tša go fapana tša temogo ya pono/go bona.



Mošongwana wa 7

Fa ke ditiragalo tša go bontšha temogo ya pono/go bona baneng ba bannyane.

1. Bala tshedimošo ka ga temogo ya pono/go bona matlakaleng a 64–67 ka go *Pukutlhahlo ya Mareo* gomme o hlathe temogo ya pono/go bona yeo bana ba ikatišago yona ka fa tlase.
 - ◆ Welekazi o bapala karolong ya thaloko ya boithabišo. O lebelela le go hwetša dieta tša gagwe tše dihubedu tše a di ratago go feta dieta tšohle ka woteropong.
-
- ◆ Morutiši o dira patrone ya dipheta tša mebala ya go fapana lenting. Leah o itirela lenti la dipheta ka go boeletša patrone ye e dirilwego ke morutiši wa gagwe.
-

2. What are the kinds of activities you have done in your Grade R class that support these perceptual skills?

Auditory perception

Auditory perception is the ability to use what the ears hear and to interpret this auditory information. There are different categories of auditory perceptual skills.



Activity 8

The following are scenarios that illustrate auditory perceptual skills in young children.

1. Read the information on auditory perception on page 68 of the *Concept Guide* and identify which auditory perceptual skills the children below are practising.

- ◆ Raiz is playing in the noisy block area. Even though there are many other learners around him talking as they play, he can focus on what his teacher is asking him to do with the blocks.

- ◆ Thobeka listens to her teacher as she counts ten counters while placing them on the mat. Thobeka remembers what she has heard and repeats the order of the numbers: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10.

2. What are the kinds of activities you have done in your Grade R class that support these perceptual skills?

2. O dirile mehuta efe ya mešongwana ya go thekga temogo ya pono/go bona ka phapošing ya Mphato wa R?

Temogo ya go kwa

Temogo ya go kwa ke bokgoni bja bjoko go šomiša seo tsebe e se kwago le go hlatholla tshedimošo ye. Go na le dihlopha tša go fapana tša temogo ya go kwa.



Mošongwana wa 8

Fa ke ditiragalo tša go bontšha temogo ya go kwa baneng ba bannyane.

1. Bala tshedimošo ka ga temogo ya go kwa letlakaleng la 69 ka go *Pukutlhahlo ya Mareo* gomme o hlathe temogo ya go kwa yeo bana ba ikatišago yona ka fa fase.
- ◆ Raiz o bapala ka karolong ya poloko ya lešata. Le ge a dikologilwe ke barutwana ba bangwe ba go bolela ba le gare ba bapala, o kgona go nepiša seo morutiši wa gagwe a mo kgopelago gore a se dire ka dipoloko.

- ◆ Thobeka o theeletša morutiši wa gagwe a le gare a bala dibaledi tše lesome a di bea mmeteng. Thobeka o gopola se a se kwelego gomme a boeletša tatelano ya dinomoro: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10.

2. O dirile mehuta efe ya mešongwana ya go thekga go gopola ka phapošing ya Mphato wa R?

Tactile and kinaesthetic perception

These two types of perception go hand in hand. Tactile perception is the ability to notice similarities and differences in the way things feel. Kinaesthetic perception is the ability to use body movements and muscle feelings. Together they provide the brain with information.



Activity 9

How can we help learners develop their tactile and kinaesthetic perception?

Refer to the other activity ideas on page 68 of the *Concept Guide*.

Temogo ya go kwa ka go phopholetša/kgwatha

Mehuta ye mebedi ya kgopolo e a sepedišana. Temogo ya go kwa ka go phopholetša/kgwatha ke bokgoni bja go lemoga dilo tša go swana le go fapana go ya ka phopholego ye tšona. Temogo ya tshepetšo ya ditho tša mmele ke bokgoni bja go diriša mosepelo wa ditho tša mmele le go phophola digoba. Ka bobedi di iša tshedimošo bjokong.



Mošongwana wa 9

Re ka thuša barutwana bjang go godiša temogo ya go kwa ka go phopholetša/kgwatha?

Lebelela dikgopolo tša mešongwana ye mengwe letlakaleng la 69 ka go *Pukutlhahlo ya Mareo*.

Session 6: Planning for teaching

1½ hours

It is important to plan and prepare thoroughly for each week. This will allow you to feel confident about what you are doing and help you to focus on teaching and working with the learners. As you have already experienced in Terms 1 and 2, the Maths Programme is carefully structured, and the maths content is presented in a progressive developmental sequence. It has been designed to ensure that all the Grade R Mathematics content and skills are covered and learners are well prepared for Grade 1. Teachers need to be cautious about selecting activities from different weeks and leaving other activities out.



Activity 10

Your facilitator will assign each group either Week 1, 2 or 3 of Term 3 to focus on.

1. Look at page 18 of *Activity Guide: Term 3* to identify the Content Area Focus of your week.
2. Find the CAPS content for this Content Area on pages 114–137 of the *Concept Guide*.
3. Read the contents of your assigned week in *Activity Guide: Term 3*.
4. Complete the planning template in Appendix A to capture the focus of the whole class and small group activities. Discuss the following to guide your planning:
 - ◆ The key concepts that learners will be learning in this week
 - ◆ The topic
 - ◆ The new knowledge to be introduced
 - ◆ The skills from previous weeks to be practised
 - ◆ How learners will be taught and will learn during:
 - whole class activities
 - small group activities
 - teacher-guided
 - independent small groups (at the workstations).
5. Identify any potential challenges in implementing the activities for your assigned week. Propose suggestions to resolve or minimise these. Record your points on flipchart paper to share with the whole group.

Thuto ya 6: Go beakanyetša go ruta

Iri e 1½

Go bohlokwa go beakanya le go itokiša gabotse beke ye nngwe le ye nngwe. Se se tlo dira gore o be le boitshepo ka se o se dirago gape sa go thuša gore o nepiše go ruta le go šoma le barutwana. Bjale ka ge o itemogetše ka go Kotara ya 1 le 2, Lenaneo la Dipalo le hlophilwe gabotse, gomme diteng tša dipalo di hlagišwa ka tatelano ya tllhabologo ye e tšwelago pele. Le akantšwe go kgonthiša gore diteng le mabokgoni ka moka a Thuto ya Dipalo tša Mphato wa R a akareditšwe gomme barutwana ba tloga ba loketše Mphato wa 1. Barutiši ba swanetše go hlokomela ge ba kgetha mešongwana ya dibeke tša go fapana ba tlogela mešongwana ye mengwe.



Mošongwana wa 10

Monolofatši wa lena o tlo abela sehlopha se sengwe le se sengwe e tee ya Dibeke tša 1, 2 goba 3 ya Kotara ya 3 gore se nepiše yona.

1. Lebelela letlakala la 19 ka go *Pukutlhahlo ya Mešongwana: Kotara ya 3* go hlatha Nepišo ya Karolo ya Diteng ya beke ya gago.
2. Hwetša diteng tša SEPHOLEKE tša Karolo ye ya Diteng matlakaleng a 114–137 ka go *Pukutlhahlo ya Mareo*.
3. Bala diteng tša beke ye o e abetšwego ka go *Pukutlhahlo ya Mešongwana: Kotara ya 3*.
4. Tlatša thempoleiti ya peakanyo ka go Mamatletšo ya A go swara nepišo ya mešongwana ya barutwana ka moka le mešomo ya dihlopha tše nnyane. Ahlaahlang tše di latelago go hlahla peakanyo ya lena:
 - ◆ Mareokgolo ao barutwana ba tlogo ithuta ona beke ye
 - ◆ Hlogotaba
 - ◆ Tsebo ye mpsha ye e tlogo tsebišwa
 - ◆ Mabokgoni a beke ya go feta ao le tlogo ikatiša ona
 - ◆ Ka fao barutwana ba tlo rutwago le go ithuta ka:
 - mešongwana ya barutwana ka moka mešomo ya dihlopha tše nnyane
 - ya go hlahlwa ke morutiši
 - dihlopha tše dinnyane tša go se hlahlwe (mafelong a go šomela).
5. Hlatha ditlhohlo tše di ka bago gona ge o phethagatša mešongwana ya beke ya gago. Šišinya ditharollo goba tše di ka fokotšago ditlhohlo. Rekhota dintlha tša gago pampiring ya tšhate ya go phetla gore o di abelane le sehlopha ka moka.

Closing activities

30 minutes



Activity 11

Workshop reflection: Take a few minutes to reflect on the day. Page through your *Participant's Workbook* to remind yourself of what was covered.

The facilitator will direct the groups to the sheets of paper on the walls. Each sheet will prompt you on how to comment.



Take back to school task

1. Use the Term 3 Weekly Planning Template in Appendix A to plan and implement Term 3 Weeks 1–3 of the Maths Programme.
2. Document how you used the '**Check that learners are able to**' observation list (in the eye box) during each of the teacher-guided activities.
3. Write an evaluation of what worked well, what did not work so well and what you could do differently to improve teaching and learning.
4. Bring your evaluation to the next workshop.

Evaluation

Complete the Evaluation Form.



Mošongwana wa 11

Go naganiša ka thutofatlhošo: Tšea metsotso ye mmalwa o naganiša ka letšatši. O phetle *Pukutšhomo ya Motšeakarolo* go ikgotša tše di akareditšwego. Ngwala dipotšišo goba ditshwayatshwayo tše o tlo di abelanago le sehlopha ka moka.

Monolofatši o tlo laela batšeakarolo gore ba ye matlakaleng a pampiri ao a lego mabotong. Letlakala le lengwe le le lengwe le tlo go laetša gore o arabe bjang.



Mošomo wo o tlo boelago le wona sekolong

1. Diriša Kotara 3 Thempoleiti ya Peakanyo ya Beke ka Beke ka go Mamatletšo ya A go beakanya le go phethagatša Kotara ya 3 Dibeke tša 1–3 ka go Lenaneo la Dipalo.
2. Ngwala ka fao o dirišitšego lenaneo la tlhokomelo (ka lepokising la leihlo) la **'Lekola gore barutwana ba kgona go'** ka nako ya mešongwana ya go hlhlwa ke morutiši ka moka ga yona.
3. Ngwala tekolo ya tše di šomilego gabotse, le tše di sa šomago gabotse le se o ka se dirago seo se fapanego go kaonafatša go ruta le go ithuta.
4. O tle le tekolo ya gago thutofatlhošong ya go latela.

Tekolo

Tlatša Foromo ya Tekolo.

APPENDIX A: TERM 3 WEEKLY PLANNING TEMPLATE

Term 3: Activity Plan: Week ____

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

MAMATLETŠO YA A: KOTARA YA 3 THEMPOLEITI YA PEAKANYO YA BEKE KA BEKE

Kotara ya 3: Peakanyo ya Mošongwana: Beke ya ____

KAROLO YA DITENG:			
HLOGOTABA:			
TSEBIŠA TSEBO YE MPSHA:			
GO IKATIŠA:			
Mešongwana ya barutwana ka moka		Mošomo wa go hlahlwa ke morutiši	Mešongwana ya mafelong a go šomela (mešomo ya dihlopha tše nnyane ya go ikemela)
Letšatši la 1			Mošongwana wa 1
Letšatši la 2			Mošongwana wa 2
Letšatši la 3			Mošongwana wa 3
Letšatši la 4			Mošongwana wa 4
Letšatši la 5			

Workshop 7 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 Tekolo ya Thutofatlhošo ya 7

1. Na thutofatlhošo e fihleletše tše o bego o di lebeletše?

2. O ithutile eng go thutofatlhošo ye se se go thušitšego kudu?

3. Go na le se o se go wa se rata goba o sa se kwešiše go?

4. O tlo phethagatša se o ithutilego sona bjang phapošing ya gago ya Mphato wa R?

5. Go na le tše o di šišinyago go kaonafatša dithutofatlhošo tše di latelago?
