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EDUCATION
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GROWING GAUTENG TOGETHER

IsiNdebele/English

Ihlelo lokuThuthukisa iimBalo zeGreyidi R Grade R Mathematics Improvement Programme



Isifundobandulo 7 • Workshop 7

INcwadi yokuSebenzela yomHlanganyeli • 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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IPhrojekthi yokuThuthukiswa kweemBalo namaLimi kwaGreyidi R imuzamo womNyango wezeFundo weGauteng (Gauteng Department of Education) nombambisani wayo oqakathekileko, i-Gauteng Education Development Trust.

Ukwenziwa nokukhiqizwa kweensetjenziswa zebandulo nezetlasi zePhrojekthi yokuThuthukiswa kweemBalo namaLimi kwaGreyidi R kukghonakele ngomusa wokusekelwa ngemali yephrojekthi ebuya ku-United States Agency for International Development kunye ne-Zenex Foundation.

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ISchools Development Unit (SDU) ye-University of Cape Town (UCT) imbambisani kezobuqharhaqharha beembalo kuPhrojekthi yokuThuthukiswa kweemBalo namaLimi kwaGreyidi R. I-SDU iyiyunithi ngaphakathi kwe-School of Education ye-UCT eqalene nokuthuthukiswa kobukghwari babotitjhere beemBalo, iSayensi, ilwazi lokuTlola nokuFunda/iLimi namaKghono wePilo ukusukela kwaGreyidi R ukuya kwaGreyidi 12. I-SDU inikela abotitjhere iziqu zokufundisa neemfundo ze-UCT ezifitjhani eziphasisiweko, umsebenzi onzinze esikolweni, ukwenziwa kwemethiriyeli nerhubhululo ukusekela ukufundisa nokufunda kibo boke ubujamo beSewula Afrika.

AMAGAMA WOKUTHOKOZA

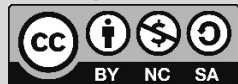
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- Isiqhema sokutlola se-R-Maths: Abasebenzi nabathintanisi be-SDU.



Ihlelo lokuThuthukisa iimBalo zeGreyidi R lisuselwe ku-R-Maths, eyakhutjiswa kokuthoma yi-Schools Development Unit, University of Cape Town ngo-2017. Ilungelo lokukhuphela le-R-Maths liphethwe yi-University of Cape Town.

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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

Isirhunyezo

Umnqopho

Lesi sifundobandulo sekhomba kezilitjhumu nambili zeHlelo lokuThuthukisa iimBalo zeGreyidi R (IHlelo leemBalo), eliyingcenywe yomNyango wezeFundo weGauteng (Gauteng Department of Education (GDE)) iPhrojekthi yokuThuthukiswa kweemBalo namaLimi kwaGreyidi R.

Umnqopho wesifundobandulwesi kusiza abotitjhere ukusebenzisa iHlelo leemBalo ngematlasinabo. Abahlanganyeli bazakuba nethuba lokuzindla ngalokho abakutjhejileko. Bazakuhlola bonyana imithethokambiso ehlahla ukufundisa iimbalo kwaGreyidi R kufanele ikulawule njani ukuhlela, ukufundisa nokuhlola kwabo. Godu bazakuyelela iragelophambili lomfundi, neendingo zokuthuthuka nokufunda komfundi ngamunye. Isifundobandulo lesi sihlola okumumethweko kweThemu 3 Iimveke 1–3 nokwenziwa komsebenzi ngetlasini.

Iintjengisi zeenGaba zokuMumethweko zeemBalo zakwaGreyidi R zithethwe kusiTatimende somGomo weKharikhyulamu nokuHlola (*i-CAPS*): *IimBalo zakwaGreyidi R (Umtlamo wokugcina)*, 2011, UmNyango wezeFundo esiSekelo, eSewula Afrika.

Imiphumela yokufunda

- ◆ Ukuzindla ngokusetjenziswa kweThemu 2 Iimveke 8–10
- ◆ Ukusebenzisa imithethokambiso yeHlelo leemBalo ekuhleleni kwaqobe yiveke
- ◆ Ukuhlela amano anzinze ekudlaleni ukusekela ukufundisa iimbalo kwaGreyidi R
- ◆ Ukufanisa okungaba ziinqabo zekghono lokufunda
- ◆ Ukwethula ukuthuthukiswa kwamakghono wokuzwelela nokusebenza kwemisipha
- ◆ Ukuzibandakanya nokumumethweko kweHlelo leemBalo kweThemu 3 Iimveke 1–3 (Amaphetheni, amaFanktjhini ne-Aljibhra; IiNomboro, ama-Opharetjhini nobuDlelwana)

Okumumethweko kwesifundobandulo

- ◆ Ukuvula nokuzindla (Imizuzu 30)
- ◆ Isetjhini 1: Ukulungisa indawo (Imizuzu 30)
- ◆ Isetjhini 2: Ukufundisa nokufunda okunzinze ekudlaleni (I-iri 1)

ITIYE

- ◆ Isetjhini 3: Ibhoduluko lokufundela iimbalo kwaGreyidi R (Imizuzu 30)
- ◆ Isetjhini 4: Izinto ezinomthintela ekufundeni iimbalo (Imizuzu 30)
- ◆ Isetjhini 5: Ukuthuthukiswa kwamakghono wokuzwelela nokusebenza kwemisipha (I-iri 1)

ISIDLO SEMINI

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

(1½ hours)
(30 minutes)

- ◆ Isetjhini 6: Ukuhlelela ukufundisa
- ◆ Imisebenzi yokuvala

(Ama-iri 1½)
(Imizuzu 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.

Ibhoksi leposi

Eminye yemiraro nemibuzo angekhe kurarululwe ngesikhathi sesifundobandulwesi. Tlola nofana ngikuphi okukutshwenyako nofana umbuzo ongabanawo ngesikhathi sesifundobandulo bese ukuphosela ngephoksini leposi. Umkghonakalisi wakho uzakuqinisekisa bonyana lokhu kuyaqalwa.

Naku *Umsebenzi obuyiselwa esikolweni* wesiFundobandulo 6.



Umsebenzi obuyiselwa esikolweni (Isifundobandulo 6)

1. Sebenzisa *umHlahlandlela wemiSebenzi: Ithemu 2* ukuhlela nokwenza nokusebenzisa imveke 8–10 zeHlelo leemBalo.
2. Tlola ukuhlunga ngalokho okusebenze kuhle, lokho okungakasebenzi kuhle nalokho ongakwenza ngokuhlukileko ukuthuthukisa ukufundisa nokufunda.
3. Yiza nokuhlunga kwakho kusifundobandulo esilandelako.

Kuqakathekile kuwe bonyana uzindle ngendlela zakho zokufundisa ngombana lokhu kuzakusiza uzwisise ngcono bonyana kubayini izinto zenzeke ngendlela ezenzeke ngayo. Ungathola iindlela zokwenza izinto ngokuhlukileko bese uthuthukisa ukufundisa kwakho.

Kuzakuba namathuba amanengi ngesikhathi seemfundobandulo lezi wokuzindla ngokuphumelela neentjhijilo zakho ngokusebenzisa iHlelo leemBalo. Sizakuthanda bonyana uthome ikambiso yokuzindla ngokuthatha imizuzu emithathu wabelane ngelemuko lakho elimayelana nokusebenzisa Ithemu 2 imveke 8–10 ku*Msebenzi obuyiselwa esikolweni*.



Umsebenzi 1

1. Esiqhemeni sakho, yabelanani ngamalemuko wenu wokusebenzisa Ithemu 2 imveke 8–10.

2. Yabelanani ngeempumelelo neentjhijilo zenu nesiqhema esikhulu.

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.

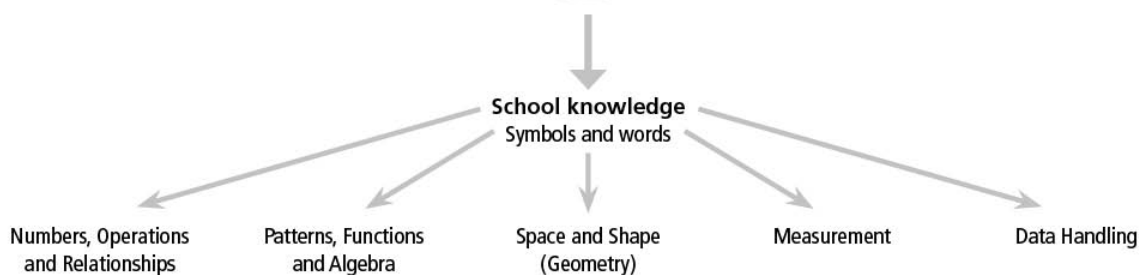
Read the **context principle** on pages 16–25 of the *Concept Guide*.

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



Isetjhini 1: Ukulungisa indawo

Imizuzu 30

Iimbalo ebujameni besikolo

Kuqakathekile ukunikela ngelemuko leembalo kubafundi bakwaGreyidi R elikhambelana nepilo yabo yangamalanga.

Funda **umthethokambiso wobujamo** emakhasini 16–25 *womHlahlandlela womQondo*.

Umthethokambiso wobujamo: Ukufunda kwenzeka ngamalanga ngetlasini neendaweni zekhaya (ubujamo) ezizwisisekako kubafundi.

Abafundi beza esikolweni nelwazi labo lephasi elibazobileko elinzize elemukweni labo. Lokhu kubizwa ngokobana lilwazi langamalanga. Esikolweni, abafundi bakhela phezu kwalokhu. Lokhu sikubiza ilwazi lesikolweni. Akhe siqaleni umdwebo ongenzasi bese sicabanga khulu ngokobana abafundi bakhela njani phezu kwelwazi langamalanga.

Ilwazi langamalanga
ukumadanisa, ukuhlela, ukhambelanisa,
ukutjho amagama weenomboro,
ukufunda ngokunengi/okuncani,
khudlwana/ncazana, lula/budisi





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?



Umsebenzi 2

1. Ngiliphi ilwazi langamalanga abafundi bakho abalikhombisileko ngetlasini?

2. Wakhele njani phezu kwelwazi leli ehlelweni lakho leembalo langamalanga esikolweni?

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.

Isetjhini 2: Ukufundisa nokufunda okunzinze ekudlaleni

I-iri 1

IsiTatimende somThethokambiso weKharikhyulamu nokuHlola (CAPS): IimBalo zeGreyidi R, indlela esebenzako yokufundisa nokufunda enzinze ekudlaleni. Lokhu kukhambisana nerhubhululo lamva nje nokuzwisisa kobana abafundi bafunda njani. IHlelo leemBalo lisekela ukusetjenziswa komdlalo kobana kube nomthelela ekuhleleni iimfundo nekuhloleni.

Umthethokambiso wokudlala: Umthethokambiso lo wenyusa umbono wokobana abafundi bafunda ngcono ngemisebenzi yokudlala ngokutjhaphulukileko nemisebenzi yokudlala ehlahlwa ngutitjhere begodu ukhuthaza imisebenzi enzinze ekudlaleni kwangendlini nokwangaphandle.

Funda **umthethokambiso wokudlala** emakhasini 28–33 *womHlahlandlela womQondo*.



Ividiyo 1

Bukela ividiyo yesiqhema sabantwana abazibandakanya ngemihlobo yokudlala ehlukeleko.

Fanisa imihlobo emihlanu yokudlala ehlatululwe ekhasini 29 *lomHlahlandlela womQondo*.

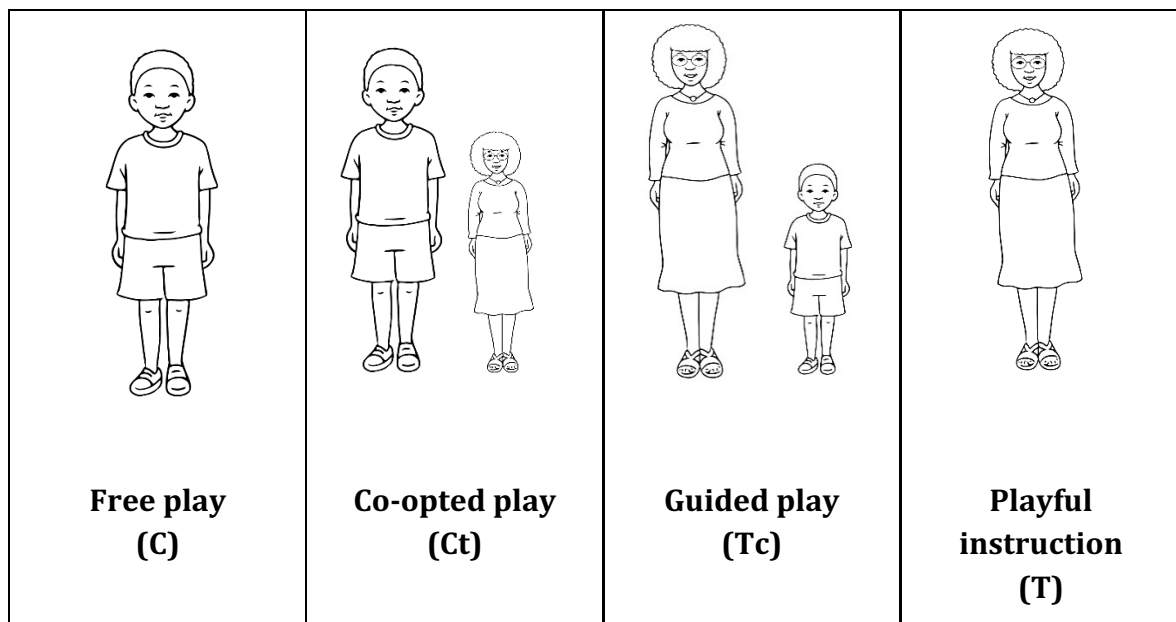
Umlandelane wemidlalo

Umlandelane lirherho lezinto ezipheze zihluke enye kwenye ezihlala ndawana thize phakathi kwamatlobo amabili ahlukeleko.

Ukudlala ngaphakathi nangaphandle kwetlasi kungakhake ngokuhlukeleko, ukusuka ekudlaleni ngokutjhaphulukileko okuthonywa bekulawulwe bafundi, ukuya emilayelweni enokudlala ethonywa beyilawulwe ngutitjhere.

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)

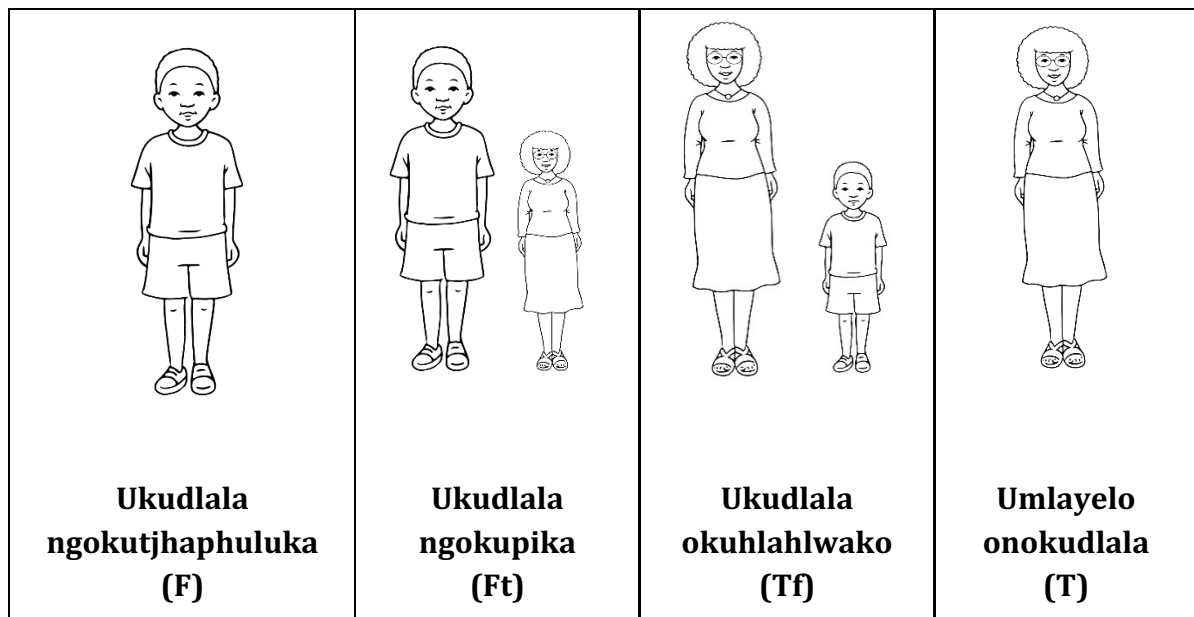
The child initiates and directs all of the play. The child decides and organises when, where, what and how to play, and who is playing. The teacher does not intervene or engage with the playing children. The teacher follows the direction set by the child.

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.

Indlela enzinze ekudlaleni yokufundisa nokufunda iyelela bona kwesinye isikhathi abantwana bafunda ngcono ngemisebenzi yokudlala ngokutjhaphuluka ethonywa beyilawulwe mntwana ngaphandle kokungenwa mumuntu omdala. Kwezinye iinkhathi abantwana bafunda ngcono ngemisebenzi yemidlalo ehlahlwako yetlasi loke nofana yeenqhema ezincani elawulwa ngutitjhere.

Imihlobo yemidlalo ethadhlulwa ngenzasi ihlobene khulu. Nanyana idwetjwe ngokuhlukaniswa, kuvamile bonyana umhlobo owodwa womdlalo utjhuguluke ube ngomunye umhlobo lokha utitjhere nabantwana bathatha iindima ezihlukileko.



Ukudlala ngokutjhaphuluka (F)

Umntwana uthoma abe alawule umdlalo woke. Umntwana uthatha isiqunto begodu ahle bonyana nini, kuphi, ini nokobana ngubani odlalako. Utitjhere akangeneleli nofana azibandakanye nabantwana abadlalako. Utitjhere ulandela umlayelo obekwe mntwana.

Ukudlala ngokupika (Ft)

Umntwana uthoma abe alawule ingcinye ekulu yomdlalo. Utitjhere ungenelela kesinye isikhathi emdlalweni wabantwana ukunabisa ukufunda kwabantwana, isib. ngokubuza umbuzo, ukunikela umbono, nofana ukungezelela iinsetjenziswa.

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.

Umdlalo ohlahlwako (Tf)

Utithere uthoma abe alawule okunengi komdlalo wabantwana ngokuhlela imisebenzi ekhethekileko, isib. ubukghwari bokwenza, imisebenzi yesiqhema esincani nofana umdlalo osiqabo. Abantwana banelawulo elincani ngombana bangathatha isiqunto sokobana ngiwuphi umsebenzi abafuna ukuwenza nofana bafuna ukuwenza njani umsebenzi.

Umlayelo onokudlala (T)

Utithere uthoma abe alawule umdlalo woke. Utithere uhlela umsebenzi ngomnqopho wokufundisa/wokufunda emkhumbulweni, isib. indatjana efundisa amakghono wokulalela, ekhambelanisa iimbalisi namatshwayo wenomboro, nofana ukuhlela amabumbeko ngamananeke.



Umsebenzi 3

Esiqhemeni sakho, khulumisanani ngemibuzo elandelako ekhambelana nomdlalo.

1. *Ukudlala ngokutjhaphuluka* kunikela njani amathuba wokunabisa ukufunda?

2. Ngokuya ngokomlandelane wemidlalo, khuyini umehluko phakathi *kokudlala okuhlahlwako* kunye *nomlayelo onokudlala*?

3. Qala umsebenzi ohlahlwa ngutithere emakhasini 32–35 *womHlahlandlela wemiSebenzi: Ithemu 3*.

- ◆ Khulumisanani ngokobana imisebenzi emihlanu le ihlelwe njani ngokwehloso yekghono/umqondo othileko wekharikhyulamu.

- ◆ 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?

- ◆ Utitjhere uyisebenzisa njani imibuzo ukukhuthaza abafundi 'ngokudlala' ngesikhathi somsebenzi?

- ◆ Lokhu kumsiza njani utitjhere ngetjhejo lakhe lokuhlola okungakahleleki?

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?

Isetjhini 3: Ibhoduluko lokufundela iimbalo kwaGreyidi R

Imizuzu 30

Ibhoduluko lokufundela iimbalo kwaGreyidi R kufanele lisekele ukufunda ngokudlala. Ihlelo lokufundisa nokufunda elihleleke kühle kufanele lifake ngokulingana imihlobo ehlukeleko yemisebenzi yokudlala.



Umsebenzi 4

Qala isithombe setlasi yeGreyidi R.



1. Cabanga ngalokho okwaziko ngokobana abantwana abancani bafunda njani. Hlathulula bonyana ibhoduluko lokufundela elisesithombeni lifanelekile na kwaGreyidi R.

2. Ungalenza njani ngcono ibhoduluko lokufundela leli?

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. Hlunga ibhoduluko lakho lokufundela.

Tshwaya ✓

Ingabe itlasi iyakarisa?	
Isikhala sihllelwe ngendlela evumela abafundi bahlangane ngeenqhema ezikulu zesetjhini yetlasi loke, begodu benze imisebenzi ehlahlwa ngutitjhere neminye yesiqhema esincani?	
Zikhona iindawo zemisebenzi yokuzikhethela ngokutjhaphulukileko lapho abafundi bangazikhethela imisebenzi yabo, bahlole, baphenye bebararulule nemiraro?	
Abafundi bayakwazi ukuba majadu ekufundeni kwabo, bahlole izinto ezibabhodileko ngeenzweleli zabo ezihlanu?	
Abafundi bayakwazi ukusebenzisana ndawonye, bakhulume, balalele begodu bafunde komunye nomunye?	
Ikhona imatheriyali ebekiweko yokobana abafundi bakwazi ukuzisiza ngokwabo?	
Abafundi bayakwazi ukukhamba mazombe ngokutjhaphulukileko ukusuka komunye umsebenzi baye komunye?	
Ingabe kunamahlelo wangamalanga, itjhadi lobujamo bezulu, amaphosta nemisebenzi yabafundi ekhangisiweko ezingeni lamehlo wabafundi?	
Ulihlele njani ibhoduluko leembalo? Unakho lokhu: <input type="checkbox"/> indawo yeembalo <input type="checkbox"/> imihlobiso yeenomboro <input type="checkbox"/> <i>iNcwadi yamaPhosta</i> ekhangisiweko <input type="checkbox"/> <i>iKhidi yeenSetjenziswa</i> <input type="checkbox"/> iinkhafthini zomfundi ngamunye <input type="checkbox"/> imisebenzi yabafundi ekhangisiweko	
Uzihlanganise njani iimbalo emisebenzini yokuzikhethela ngokutjhaphulukileko? Unakho lokhu: <input type="checkbox"/> iindlalisi zokwakha <input type="checkbox"/> iincwadi <input type="checkbox"/> imidlalo yeenthombengcondo <input type="checkbox"/> amaphazili <input type="checkbox"/> ubukghwari <input type="checkbox"/> ihlabathi namanzi <input type="checkbox"/> imidlalo yangaphandle <input type="checkbox"/> imidlalo efundisako <input type="checkbox"/> ibuthelelo lemetheriyeli eyenziwe kabutjha, isib. iinkhafthini neemvalo zeplastiki Okhunye: _____	
Ngiziphi iintjhijilo oqalana nazo lokha nawulungisa ibhoduluko lakho leGreyidi R?	
Kunamatjhuguluko ongawenza?	

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?

Isetjhini 4: Izinto ezinomthintela ekufundeni iimbalo

Imizuzu 30

Umthethokambiso wokufaka koke: Boke abafundi banelungelo lokuzizwa bakhethekile, bahlanganyele begodu bafakwe emisebenzini nemikhulumiswaneni yetlasi. Lokhu kufaka hlangana abantwana abakhubazekileko, abanemiraro yokuziphatha nofana ezinye iinqabo zokufunda.

Iinqabo zokufunda iimbalo

Abafundi abanengi baneinqabo zokufunda iimbalo ezimiphumela yezinto ezinengi. Akhe siqaliseni ezinye zeenqabo zokufunda abafundi abangaba nazo. Qala umdwebho 29 ikhasi 59 lomHlahlandlela womQondo.



Umsebenzi 5

Yenza irherho lemihlobo yeenqabo abafundi betlasi lakho abanazo ezinomthintela ekufundeni kwabo.

Ngokuhlela ngokuyelela nangokusebenzisana nemindeni nabanye abantu abasekelako, abafundi abanamakghono akhethekileko bangahlanganyela ngokupheleleko kuHlelo leGreyidi R.



Umsebenzi 6

Esiqhemeni sakho, yabelanani ngamalemuko wenu mayelana nabafundi abahlangabezana neenqabo zokufunda iimbalo. Khethani umfundi ongakghoni ukwenza ngokuzeleko imisebenzi yangetlasini. Zamani ukuphendula imibuzo nasi.

1. Khuyini isiqabo sokufunda?

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. Khuyini iindingo zokufunda zomfundi lo?

3. Ngiliphi isekelo elidingekako?

4. Ngiwaphi amagadango ongawathatha ukunciphisa isiqabo sokufunda kobana umfundi ahlanganyele ngekulu ipumelelo eembalweni zeGreyidi R?

5. Nangabe awukghoni ukubona isiqabo, iindingo zokufunda nofana isekelo elidingekako, ungathinta bani?

Funda ezinye zeendlela ongazisebenzisa ukufaka boke abafundi ngetlasini lakwaGreyidi R ekhasini 61 lomHlahlandlela womQondo.

Khumbula bonyana kuqakathekile ukubona iinqabo msinyana ngendlela okungakghoneka ngayo kobana kube nehlelo lokuqalana netuthuko neendingo zomfundi oyedwa. Itjhejo lakho leragelophambili labafundi lizakusiza kobana ubone iinkhala ezingabakhona ekufundeni kwabo begodu kuzakusiza nokobana uhlele iindlela zokuqalana nalokhu.

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.

Isetjhini 5: Ukuthuthukiswa kwamakghono wokuzwelela nokusebenza kwemisipha

I-iri 1

Ukuzwisisa kwakhekha ngelwazi elifumaneka ngokusebenzisa amakghono wokuthinta, ukubona, ukunukelela, ukunambitha nokuzwa, begodu kusisa abantwana ukufunda ngephasi. Ukuthuthukisa amakghono wokusebenza kwemisipha kukhambisana nokuthuthukisa amakghono wokuzwisisa – lokha abantwana nabasebenzisa amakghono wabo wemisipha ukusikinyeka ebhodulukweni, babuthelela ilwazi ngamakghono wabo wokuzwelela.

Amakghono wokuzwisisa nokusebenza kwemisipha aqakatheke khulu ekufundeni iimbalo. Afaka hlangana:

- ◆ ikghono lokuzwisisa okubonwako
- ◆ ikghono lokuzwisisa okulalelwako
- ◆ ikghono lokuzwisisa okuphathekako nelokuzwelela ngokusikinya umzimba.

Ikghono lokuzwisisa okubonwako

Ikghono lokuzwisisa okubonwako likghono lokwazi ukusebenzisa lokho amehlo akubonako bese uhlathulula ilwazi elibonwako leli. Kuneneengaba ezihlukileko zamakghono wokuzwisisa okubonwako.



Umsebenzi 7

Ubujamo obulandelako ngilobo obutjengisa amakghono wokuzwisisa okubonwako ebantwaneni abancani.

1. Funda ilwazi mayelana nekghono lokuzwisisa okubonwako emakhasini 64–67 *womHlahlandlela womQondo* bese uqala bonyana ngiwaphi amakghono wokuzwisisa okubonwako abantwana abangenzasi abazijayeza wona.

- ◆ UWelekazi udlala endaweni yomdlalo weenthombengcondo. Ufuna bekathole amanyathelo wakhe abovu awathandako phakathi kwawo woke amanye amanyathelo angewodrobheni.

-
- ◆ Utitjhere wenza iphetheni yemincamo yemibala ehlukeleko ngentambo. ULeah wenza yakhe intambo yemincamo ngokubuyelela iphetheni eyenziwe ngutitjhere wakhe.
-

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. Ngimiphi imihlobo yemisebenzi oyenzileko etlasini leGreyidi R esekela amakghono wokuzwisisa lawa?

Ikghono lokuzwisisa okulalelwako

Ikghono lokuzwisisa okulalelwako likghono lokusebenzisa lokho iindlebe ezikuzwako nokurhumutjha ilwazi leli lokulalelwako. Kuneengaba ezihlukileko zamakghono wokuzwisisa okulalelwako.



Umsebenzi 8

Ubujamo obulandelako ngilobo obutjengisa amakghono wokuzwisisa okulalelwako ebantwaneni abancani.

1. Funda ilwazi mayelana nekghono lokuzwisisa okulalelwako ekhasini 69 *lomHlahlandlela womQondo* bese uqala bonyana ngiwaphi amakghono wokuzwisisa okulalelwako abantwana abangenzasi abazijayeza ngawo.
- ◆ URaiz udlala endaweni yamabhlogo enetjhada. Nanyana kunabanye abafundi abanengi eduze kwakhe abakhulumako lokha nabadlalako, ukghona ukuqalana nalokho utitjhere ambawa bonyana akwenze ngamabhlogo.

-
- ◆ UThobeka ulalela utitjhere wakhe abala iimbalisi ezilitjhumi azibeka emadeni. UThobeka ukhumbula lokho akuzwileko bese ubuyelela irhemo leenomboro: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10.

2. Ngimiphi imihlobo yemisebenzi oyenzileko etlasini leGreyidi R esekela amakghono wokuzwisisa lawa?

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*.

Ukuzwisisa ngokuzwelela nokusikinyeka komzimba

Imihlobo emibili le yekghono lokuzwelela iyakhambisana. Ikghono lokuzwisisa okuphathekako likghono lokubona ukufana nokuhluka ngendlela izinto zizweleleka ngayo. Ikghono lokuzwelela ngokusikinya umzimba likghono lokusebenzisa imisikinyeko yomzimba nemizwa yemisipha. Ngokusebenzisana kwayo ndawonye inikela ubuqhopho ilwazi.



Umsebenzi 9

Singabasiza njani abafundi ukuthuthukisa ikghono labo lokuzwisisa ngokuzwelela nokusikinyeka komzimba?

Qala keminye imibono yomsebenzi ekhasini 69 lomHlahlandlela womQondo.

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.

Isetjhini 6: Ukuhlelela ukufundisa

Ama-iri 1½

Kuqakathekile ukuhlelela nokuzilungiselela ngokupheleleko iveke ngayinye. Lokhu kuzakuvumela bonyana uzizwe uzethemba ngalokho okwenzako begodu kuzakusiza ngokuqalana nokufundisa nokusebenza nabafundi. Njengombana sele ulemukile kuThemu 1 naku-2, iHlelo leemBalo lakhiwe ngokuyelela okukhulu, begodu okumumethweko kweembalo kuthulwe ngelandelano leragelophambili elithuthukako. Litlanye ukuqinisekisa bonyana koke okumumethweko namakghono weHlelo leemBalo zakwaGreyidi R kuyenziwa begodu nabafundi balungiselelwa kuhle uGreyidi 1. Abotitjhere kufanele batjhejisise ukukhetha imisebenzi yeemveke ezihlukileko nokulisa eminye imisebenzi.



Umsebenzi 10

Umkghonakalisi wakho uzakunikela isiqhema ngasinye iVeke 1, 2 nofana 3 yeThemu 3 ukunqophana nayo.

1. Qalani ikhasi 19 lomHlahlandlela wemiSebenzi: Ithemu 3 ukufanisa umNqopho wesiGaba sokuMumethweko kweveke yenu.
2. Tholani okumumethweko kwe-CAPS kwesiGaba sokuMumethweko lokhu emakhasini 114–137 womHlahlandlela womQondo.
3. Fundani okumumethweko kweveke onikelwe yona kumHlahlandlela wemiSebenzi Ithemu 3.
4. Zalisani umfuziselo wehlelo Isithasiselo A ukuthola umnqopho wemisebenzi yetlasi loke neyesiqhema esincani. Khulumisanani ngokulandelako ukunihlahla nanihlelako:
 - ◆ Imiqondo eqakathekileko abafundi abazayifunda evekeni le
 - ◆ Isihloko
 - ◆ Ilwazi elitjha ekufanele lithulwe
 - ◆ Amakghono wangeemveke ezidlulileko ekufanele ajayezwe
 - ◆ Abafundi bazakufundiswa begodu bafunde njani ngesikhathi:
 - semisebenzi yetlasi loke
 - semisebenzi yesiqhema esincani
 - ehlahlwa ngutitjhere
 - iinqhema ezincani ezizijameleko (iintetjhi zokusebenzela).
5. Fanisani nofana ngezinjani iintjhijilo ezingabakhona ekwenzeni imisebenzi yeveke onikelwe yona. Nikelani iimphakamiso zokurarulula nofana ukunciphisa lokhu. Rekhodani amaphuzu wenu etjhadini lephepha eliphendlekako nizokwabelana nesiqhema soke.

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.



Umsebenzi 11

Ukuzindla ngesifundobandulo: Thatha imizuzu embalwa uzindle ngelanga leli. Phendla *iNcwadi yokuSebenzela yomHlanganyeli* ukuzikhumbuza ngalokho esele kwenziwe.

Umkghonakalisi uzakulayela iinqhema ematjhidini wephepha aphezu kweboda. Itjhidi ngalinye lizakukhuthaza bonyana ungawubeka njani umbono.



Umsebenzi obuyiselwa esikolweni

1. Sebenzisa umFuziselo wokuHlela waqobe yiVeke weThemu 3 Isithasiselo A ukuhlela nokwenza Ithemu 3 Iimveke 1–3 zeHlelo leemBalo.
2. Tlola bonyana ulisebenzise njani irhelo lokutjheja uku **‘Tjheja bonyana abafundi bayakwazi uku’** (ngebhoksini lelihlo) ngesikhathi semisebenzi ehlahlwa ngutitjhere.
3. Hlunga ngokutlola lokho okusebenze kuhle, lokho okungakasebenzi kuhle nalokho ongakwenza ngokuhlukileko ukuthuthukisa ukufundisa nokufunda.
4. Yiza neforomo lakho lokuhlunga ngesifundobandulo esilandelako.

Ukuhlunga

Zalisa Iforomo lokuHlunga.

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				

ISITHASISELO A: ITHEMU 3 UMFUZISELO WOKUHLELA WAQOBE YIVEKE

Ithemu 3: Ihlelo Lomsebenzi: Iveke ____

ISIGABA SOKUMUMETHWEKO:				
ISIHLOKO:				
YETHULA ILWAZI ELITJHA:				
UKUJAYEZA:				
Imisebenzi yetlasi loke		Umsebenzi ohlahlwa ngutitjhere	Imisebenzi yesitetjhi sokusebenzela (imisebenzi yesiqhema esincani esizijameleko)	
Ilanga 1			Umsebenzi 1	
Ilanga 2			Umsebenzi 2	
Ilanga 3			Umsebenzi 3	
Ilanga 4			Umsebenzi 4	
Ilanga 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?

Isifundobandulo 7 Iforomo lokuHlunga

1. Ingabe isifundobandulo sibe ngilokho ebegade ukulindele?

2. Khuyini okufundileko kilesisifundobandulo okukusize khulu?

3. Ikhona into nofana khuyini ongakhange uyithande nofana obenobudisi ukuyizwisisa?

4. Uzokusebenzisa njani lokho okufundileko ngetlasini yakho yakwa-Greyidi R?

5. Kukhona imibono onayo emayelana nokwenza iifundobandulo ezizako zibe ngcono?
