



IsiZulu/English

Uhlelo Lokuthuthukisa Izibalo Zebanga R Grade R Mathematics Improvement Programme



Umhlangano Wokucobelelana Ngolwazi 7 • Workshop 7 Incwadi Yokusebenzela Yababambiqhaza • 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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Ukuthuthukiswa nokukhiqizwa kokuqeqeshwa kanye nezinsiza zasekilasini zoHlelo Lokuthuthukisa Izibalo neziLimi ZeBanga R kuphumelele ngenxa yoxhaso olunobubele lwephrojekthi oluphuma kwi-**United States Agency for International Development** kanye ne-**Zenex Foundation**.

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I-Schools Development Unit (SDU) e-University of Cape Town (UCT) iwumlingani owuchwepheshe wezibalo kuHlelo Lokuthuthukisa Izibalo neziLimi ZeBanga R. I-SDU iyingxenye ephakathi ku-School of Education sase-UCT egxile ekuthuthukisweni kobungcweti bothisha eziBalweni, Isayensi, Ukwazi Ukufunda Nokubhala/ Ulimi kanye namaKhono Empilo kusuka EBangeni R kuya EBangeni le-12. I-SDU inikeza iziqu zobuthishela kanye nezifundo zesikhathi esifushane ezivunywe i-UCT, umsebenzi osekelwe esikoleni ukuthuthukiswa kwezinto kanye nocwaningo ukuze kusekwe ukufundisa nokufunda kuzo zonke izimo zaseNingizimu Afrika.

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- Izikhulu zomkhakha woHlelo Lwezifundo, Umkhakha Wokufunda kothisha kanye nomkhakha WokuFunda okukhethekile woMnyango WezeMfundo wesiFundazwe saseGauteng, ngokuzinikela kwabo ukulungisa izinsiza kufunda zethu.
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Uhlelo Lokuthuthukisa Izibalo ZeBanga R lususelwe ku-*R-Maths*, eyashicilelwa okokuqala ngonyaka wezi-2017 yi-Schools Development Unit, University of Cape Town. Ilungelo lobunikazi be-*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)
TE	A	
•	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)
LU	NCH	

Ukubuka ngelibanzi

Inhloso

Lo owesikhombisa emihlanganweni yokucobelelana ulwazi eyishumi nambili ngaphansi kwesihloko: Uhlelo Lokuthuthukisa Izibalo ZeBanga R (Uhlelo Lwezibalo), eyingxenye YoMnyango WezeMfundo wesiFundazwe saseGauteng (Gauteng Department of Education (GDE Uhlelo Lokuthuthukisa Izibalo neziLimi ZeBanga R.))

Inhloso yalo mhlangano wokucobelelana ngolwazi ukusiza othisha ukuthi basebenzise Uhlelo Lwezibalo emakilasini abo. Ababambiqhaza bazothola ithuba lokucabangisisa ngalokho abakuqaphele. Bazohlola ukuthi imigomo engumhlahlandlela yokufundisa izibalo kwiBanga R ihambisana kanjani nokuhleleka, ukufundiswa kanye nokuhlolwa kwabo. Bazocabanga ngenqubekela phambili yabafundi, kanye nezidingo zokukhula nokufunda komuntu ngamunye. Lo mhlangano wokucobelelana ngolwazi uphenya okuqukethwe kuThemu 3 Amasonto 1–3 kanye nokuqaliswa kwako ekilasini.

Ingxenye Yolwazi Yezibalo zeBanga R ithathwe *kuSitatimende Senqubomgomo Yohlelo Lwezifundo Nokuhlola (CAPS)*: *Izibalo Zebanga R (Uhlaka Lokugcina)*, 2011, Umnyango Wemfundo Eyisisekelo, eNingizimu Afrika.

Imiphumela yokufunda

- ♦ Ukucabanga ngokusetshenziswa kweThemu 2 Amasonto 8–10
- Ukusebenzisa izimiso Zohlelo Lwezibalo ekuhleleni kwamasonto onke
- Ukuhlola amasu asekelwe ekudlaleni okuxhasa ukufundisa izibalo Ebangeni R
- Ukuhlonza izithiyo ezingaba khona ngokuphathelene nokufunda
- Ukwethula ukuthuthuka kokuqonda kanye nezikhwepha
- ◆ Ukuzibandakanya nokuqukethwe Kohlelo Lwezibalo lweThemu 3 Amasonto 1–3 (Amaphethini, Amafankshini kanye ne-Aljebhra; Izinombolo, Izimpawu kanye Nobudlelwane Bazo)

Okuqukethwe komhlangano wokucobelelana ngolwazi

•	Ukuvula nokudlinza	(30 imizuzu)		
•	Iseshini 1: Ukulungiselela indawo	(30 imizuzu)		
•	Iseshini 2: Ukufundisa nokufunda okusekelwe ekudlaleni	(1 ihora)		
ITIYE				
•	Iseshini 3: Indawo yokufunda yezibalo zeBanga R	(30 imizuzu)		
•	Iseshini 4: Izinto ezinomthelela ekufundeni izibalo	(30 imizuzu)		
•	Iseshini 5: Ukuthuthuka kokuqonda kanye nezikhwepha	(1 ihora)		
ISI	ISIDLO SASEMINI			

- Session 6: Planning for teaching
- Closing activities

 $(1\frac{1}{2} \text{ hours})$ (30 minutes)

- Iseshini 6: Ukuhlelela ukufundisa
- Imisebenzi yokuvala

(1½ amahora) (30 imizuzu)

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*.



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

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

Ukuvula nokuzindla

30 imizuzu

Ibhokisi leposi

Ezinye zezinkinga zakho nemibuzo kungenzeka kungabhekelelwa ngesikhathi salo mhlangano wokucobelelana ngolwazi. Bhala noma yikuphi ukukhathazeka noma imibuzo ongase ube nayo ngesikhathi somhlangano wokucobelelana ngolwazi, bese ukuposa ebhokisini leposi. Umsizi wakho uzoqinisekisa ukuthi lokhu kuyabhekelelwa.

Nangu *Umsebenzi obuyela nawo esikoleni* ovela Kumhlangano Wokucobelelana Ngolwazi 6.

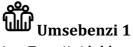


Umsebenzi obuyela nawo esikoleni (Umhlangano Wokucobelelana Ngolwazi 6)

- 1. Sebenzisa *Umhlahlandlela Wemisebenzi: Ithemu 2* ukuhlela kanye nokwenza AmaSonto 8-10 oHlelo lweziBalo.
- 2. Bhala ukuhlola okusebenze kahle, okungasebenzanga kahle nongakwenza ngokuhlukile ukwenza ngcono ukufundisa nokufunda.
- Phatha ukuhlola emhlanganweni wokucobelelana ngolwazi olandelayo.

Kubalulekile kuwe ukuthi ucabangisise ngendlela ofundisa ngayo njengoba lokhu kuzokusiza ukuthi uqonde kangcono ukuthi kungani izinto zenzeke njengoba zenzekile. Ungahle uthole nezindlela zokwenza izinto ngendlela ehlukile, uthuthukise nokufundisa kwakho.

Kuzoba namathuba amaningi phakathi nalezi zindawo zokusebenzela azobonisa impumelelo yakho kanye nezinselele obe nazo ekugaliseni kwakho Uhlelo Lwezibalo. Sithanda ukuthi uqale inqubo yokucabangisisa ngokuchitha imizuzu embalwa wabelana nabanye ngohlangabezane nakho ngenkathi usebenzisa Ithemu 2 Amasonto 8-10 ngokusekelwa Umsebenzi obuyela nawo esikoleni.



1.	Eqenjini lakho, yabelana nabanye ngohlangabezene nakho ngenkathi wenza Ithemu 2 Amasonto 8–10.

2. Yabelana nabanye nangempumelelo nezinselele zakho neqembu elikhulu.

Session 1: Setting the scene

30 minutes

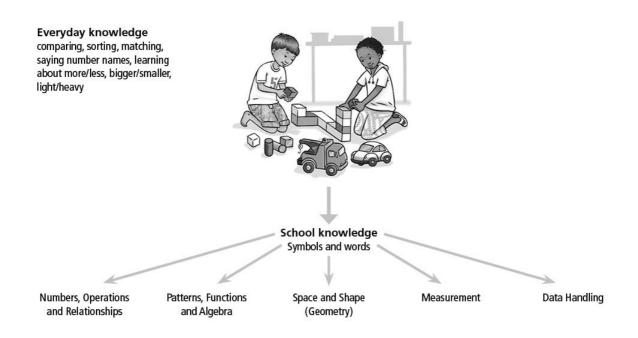
Maths in the school context

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.



Iseshini 1: Ukulungiselela indawo

30 imizuzu

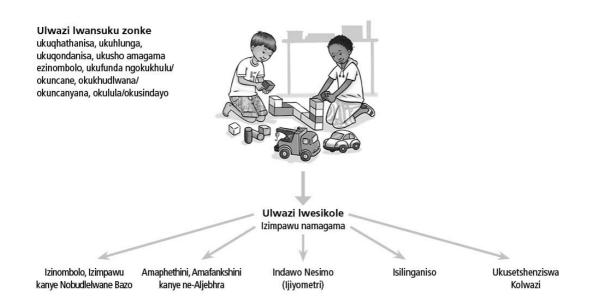
Izibalo engqikithini yesikole

Kubalulekile ukunikeza abafundi beBanga R okokuzithokozisa okuphathelene nezibalo nokuhambisana nezimpilo zabo zansuku zonke.

Funda **umgomo wesimo** ekhasini 16–25 lo*Mhlahlandlela Wokuqonda Isifundo*.

Umgomo wengqikithi: Ukufunda kwenzeka nsukuzonke empilweni yasekilasini nasekhaya eziqondakalayo kubafundi.

Beza esikoleni sebewazi kancane abafundi bewubone ngezinto zawo ezithinta impilo yabo kanye nalezo asebeke bahlangabezana nazo. Lokhu kubizwa ngokuthi ulwazi lwansuku zonke. Esikoleni izingane zakhela phezu kwakho lokhu. Kubize ngolwazi lwesikole lokhu. Ake sibheke lo mdwebo ongezansi, bese sicabanga kabanzi ngendlela abafundi abakhela ngayo kulo ulwazi lwansukuzonke.





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?		



	·
2.	Ulwakhe kanjani lolu lwazi ohlelweni lwakho lwezibalo zansukuzonke esikoleni?

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 freeplay and guided-play activities and encourages indoor and outdoor play-based activities.

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

Video 1	
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.

Iseshini 2: Ukufundisa nokufunda okusekelwe ekudlaleni 1 ihora

Isitatimende Senqubomgomo Yohlelo Lwezifundo (CAPS): Izibalo zeBanga R zikhuthaza ukufunda okusekelwe ekudlaleni, indlela esebenza mathupha yokufundisa kanye nokufunda. Lokhu kuvumelana nocwaningo lwamanje oluyiqondayo indlela izingane ezifunda ngayo. Uhlelo Lwezibalo luyakwesekela ukusetshenziswa kwemidlalo ekulungiseleleni izifundo kanye nokuhlola.

Umgomo wokudlala: Lo mgomo ukhuthaza umqondo othi izingane zifunda kangcono uma zidlala ngokukhululeka, futhi zenza nemisebenzi yokudlala eholwayo ehambisana nemisebenzi yasendlini kanye nangaphandle eyeyeme ekudlaleni.

Funda **umgomo wokudlala** emakhasini 28–33 o*Mhlahlandlela Wokuqonda Isifundo*.

Ividiyo 1 Buka ividiyo yeqembu lezingane elizibandakanya kwizinhlobo zokudlala ezahlukene.
Hlonza izinhlobo ezinhlanu zokudlala ezichazwe ekhasini 29 lo <i>Mhlahlandlela</i> Wokuqonda Isifundo.

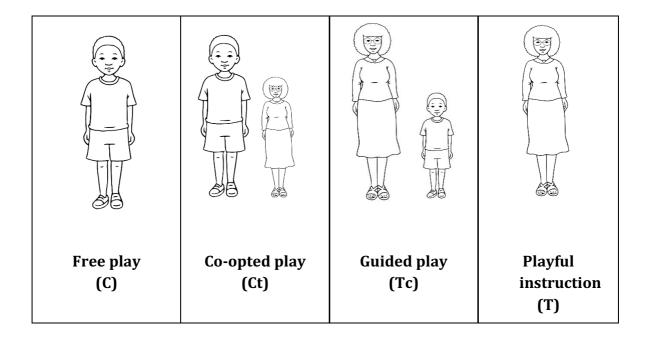
Ukughubeka komdlalo

Uhide wuchungechunge lwezinto ezihluke kancane enye kwenye ezisendaweni ethile phakathi kwezindawo ezimbili.

Ukudlala ngaphakathi kanye nangaphandle kwekilasi kungaba ngezindlela ezahlukene kusukela kukho ukudlala ngokukhululeka nokuyalelwa abafundi nokuqalwa ngakho, bese kuba yimiyalo kubafundi okuqalwe ngayo kuze kufinyelele kuleyo eqalwe futhi yakhishwa nguthisha.

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)

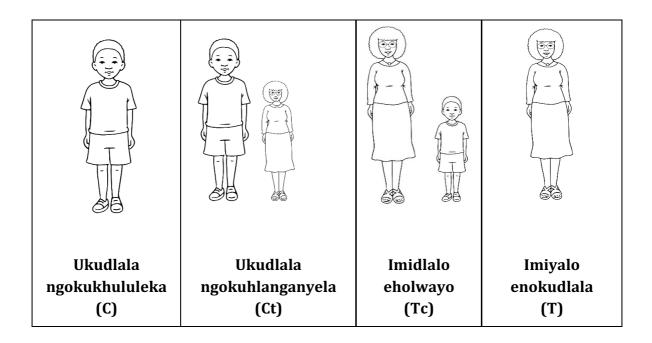
The child initiates and directs all of the play. The child decides and organises when, where, what and how to play, and who is playing. The teacher does not intervene or engage with the playing children. The teacher follows the direction set by the child.

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 yokusekela ukufundisa kanye nokufunda kudlalwa, kokunye izingane zifunda kangcono kuyo imisebenzi eyimidlalo ekhululekile eqalwe futhi yakhishelwa ingane ngaphandle kokubandakanyeka komuntu omdala. Ngezinye izikhathi izingane zifunda kangcono kuyo futhi misebenzi eyimidlalo eholwayo yekilasi lonke noma yamaqembu amancane aholwa nguthisha.

Izindlela ezichazwa ngezansi zokudlala zihlobene kakhulu. Noma zivela zehlukene, esikhathini esiningi uhlobo olulodwa lomdlalo luyashintsha lube ngolunye uhlobo ngesikhathi uthisha nezingane bedlala izindima ezahlukene.



Ukudlala ngokukhululeka (C)

Ingane iqala iqondise umdlalo wonke. Ingane iyanquma iphinde ihlele ukuthi kwenzekani, nini, kuphi, nokuthi kudlalwa kanjani, ngubani odlalayo. Uthisha akangeneleli noma azibandakanye nezingane uma zidlala. Uthisha ulandela indlela ebekwe yizingane.

Imidlalo yokuhlanganyela (Ct)

Ingane iqala iphinde iqondise okuningi okuphathelene nokudlala. Uthisha uyangenelela njalo ngemva kwesikhathi esithile ekudlaleni kwezingane ukuze akwelule ukufunda kwezingane, isb., ngokubuza umbuzo, ngokwenza isiphakamiso noma ukwengeza izisetshenziswa.

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.

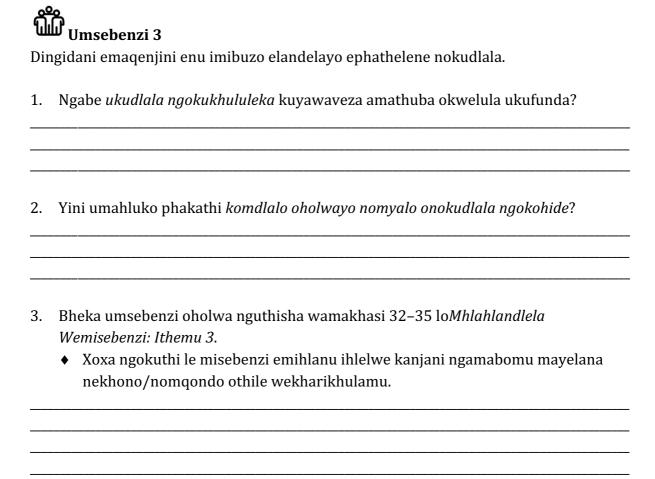
Ш	Activity 3		
In your group, discuss the following questions related to play.			
1.	How does <i>free play</i> provide opportunities to extend learning?		
2.	According to the play continuum, what is the difference between <i>guided play</i> and <i>playful instruction</i> ?		
3.	 Look at the teacher-guided activity of pages 32–35 of <i>Activity Guide: Term 3</i>. ◆ Discuss how the five activities are intentionally planned around a particular curriculum skill/concept. 		

Imidlalo eholwayo (Tc)

Uthisha uqala aqondise iningi lezingane ngemisebenzi ethile, isib., ubuciko bokudala, imisebenzi yeqembu elincane noma indlela enezithiyo. Izingane ziyakwazi ukulawula ngoba zivunyelwe ukunquma ukuthi yimuphi umsebenzi ezifuna ukuwenza noma ukuthi zingathanda ukuwenza kanjani.

Imiyalo enokudlala (T)

Uthisha uqala ukuqondisa umdlalo wonke. Uhlela ngeqondo umsebenzi ngenhloso yokufundisa/yokufunda, isb. indaba efundisa ngamakhono okulalela, eqondanisa izinombolo nezibali, noma ukuhlela izimo. Ingane ilandela umkhondo obekwe nguthisha.



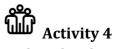
•	How does the teacher use questions to prompt the learners 'playfully' during the activities?
•	How does this assist the teacher with her observation for informal assessment?

Lakhu kumciza kanjani uthi	
Lokhu kumsiza kanjani uthi: okungahleliwe?	isha ngokuphathelene nokuqaphela ukuhlola

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.



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?

Iseshini 3: Indawo yokufunda yezibalo zeBanga R 30 ir

30 imizuzu

Indawo yokufunda yezibalo zeBanga R kufanele ikwesekele ukufunda ngokudlala. Uhlelo lokufundisa nokufunda oluhlelwe kahle kufanele lubandakanye ukulingana kwazo zonke izinhlobo ezahlukene zemisebenzi yokudlala.



Bheka isithombe sekilasi leBanga R.



1.	Cabanga ngalokho okwaziyo mayelana nendlela izingane ezincane ezifunda ngayo. Xoxa ngokuthi ingabe indawo yokufunda ifanelekile yini kwiBanga R kulesi sithombe.
2.	Ungayithuthukisa kanjani le ndawo yokufunda?

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:	
a maths area	
number friezes	
the <i>Poster Book</i> displayed	
a Resource Kit	
tubs for each learner	
the learners' work displayed	
How have you integrated maths in the free choice activities? Do you have:	
construction toys	
books	
fantasy play	
puzzles	
□art	
sand and water	
outdoor play	
educational games	
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. Hlola indawo yakho yokufunda.

Thikha ✓

Ingabe ikilasi liyaheha?	·
Ingabe indawo ihlelwe yalungela ukuthi abafundi bahlangane ngamaqembu	
amakhulu kumaseshini wonke ekilasini, nokuthi bakwazi ukusebenza	ļ
ngokuholwa nguthisha, kanye neminye imisebenzi yeqembu elincane?	ļ
Ngabe ukhona umsebenzi wokuzikhethela ngokukhululeka izindawo lapho	
abafundi bengakhetha khona imisebenzi eyenziwayo, bahlole, baphenye,	ļ
baxazulule nezinkinga?	
Ngabe abafundi banawo umdlandla ekufundeni kwabo, futhi bayazihlola izinto	
ezibazungezile besebenzisa izinzwa zabo ezinhlanu?	
Ngabe abafundi bayakwazi ukusebenza ndawonye, bakhulume, balalele, bafunde	
komunye nomunye?	
Ngabe zikhona izinto ezifakwayo ukuze abafundi basizakale?	
Ngabe abafundi bayakwazi ukuhamba bekhululekile ukusuka komunye	
umsebenzi baye komunye?	
Ngabe uhlelo lwansukuzonke, ishadi lesimo sezulu, amaphosta nomsebenzi	
wabafundi kukhonjiswa kuqondaniswe namehlo abafundi?	
Uyihlele kanjani indawo yezibalo? Ngabe unakho lokhu:	
indawo yezibalo	
amafrizi ezinombolo	
Incwadi Yamaphosta ekhonjisiwe	
☐ Ikhithi Yezinsiza	
izindishi zomfundi ngamunye	
umsebenzi wabafundi obonisiwe	
Uzifake kanjani izibalo emisebenzini yokuzikhethela? Ngabe unakho lokhu:	
amathoyizi okwakha	
izincwadi	
umdlalo wokuzenzisa	
amaphazili	
ubuciko	
amanzi nenhlabathi	
ukudlala ngaphandle	
imidlalo yokufunda	
iqoqo lezinto ezinokuvuselelwa, isb. izindishi zepulasitiki kanye nezivalo zazo	
Okunye:	
Viginki igingalala ahkalrana naga aluulungigalalani indayya yalkha yaDanga D2	
Yiziphi izinselele obhekana nazo ekulungiseleleni indawo yakho yeBanga R?	
Ngabe zikhona izinguquko ongazenza?	
115400 Zimiona izingaqano ongazonzar	1
	1

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 exper	riencing 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.



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?

Iseshini 4: Izinto ezinomthelela ekufundeni izibalo 30 imizuzu

Umgomo wokubandakanya: Banelungelo lokuzizwa bekhethekile, behlanganyela futhi befakwa emisebenzini yasekilasini nasezingxoxweni bonke abafundi. Lokhu kufaka phakathi izingane ezikhubazekile, izinkinga zazo zokuziphatha nezinye izithiyo ngokuphathelene nokufunda.

Izithiyo ekufundeni izibalo

Abafundi abaningi bahlangabezana nezithiyo eziwumphumela wezici ezihlukahlukene ezibalweni. Ake sibheke ngokucophelela ezinye zezingqinamba zokufunda abafundi abangahle bahlangabezane nazo. Bheka Umdwebo 29 ekhasini 59 loMhlahlandlela Wokuqonda Isifundo.

Umsebenzi 5	
Yenza uhlu lwezinhlobo zezithiyo ababhekana nazo abafundi ekilasini lakho eziba nomthelela ekufundeni kwabo.	
Ngokuhlela ngokucophelela futhi ngokubambisana nemindeni nabanye abantu	

abasekelayo, abafundi abanezidingo ezikhethekile ezithinta ukuthuthuka kwabo, bangahlanganyela ngokugcwele ohlelweni lweBanga R.

Umsebenzi 6

Yabelana neqembu lakho ngohlangabezene nakho ngabafundi ababhekana nezithiyo zokufunda izibalo. Khetha umfundi ohlulekayo emisebenzini yekilasi. Zama ukuphendula le mibuzo.

1.	Sithiyo sini sokufunda esikhona?	

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.	Zidingo zini zokufunda ezikhona kubafundi?
3.	Yikuphi ukwesekwa okudingekayo?
4.	Yiziphi izinyathelo ongazithatha ukunciphisa isithiyo sokufunda ukuze umfundi akwazi ukubamba iqhaza ngempumelelo kwiZibalo zeBanga R?
5.	Uma ungakwazi ukubona isithiyo, izidingo zokufunda, noma ukwesekwa okudingekayo, ungabonisana nobani?

Funda ekhasini 61 lo*Mhlahlandlela Wokuqonda Isifundo* ezinye zezindlela ongabandakanya ngazo bonke abafundi ekilasini leBanga R.

Khumbula ukuthi kubalulekile ukubona ngokushesha ngangokunokwenzeka izithiyo zokufunda ukuze kubekwe uhlelo lokubhekana nezidingo zokukhula nokufunda komfundi ngamunye. Ukuhlola kwakho okuqhubekayo kwentuthuko yabafundi kuzokusiza ukuthi ubone noma yiziphi izikhala ezingaba khona ekufundeni kwabo, futhi kukusize uhlele izindlela zokubhekana nakho lokhu.

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.



யி _{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.

Iseshini 5: Ukuthuthukisa amakhono okuqonda izinzwa kanye nezikhwepha 1 ihora

Ukukhula kwezinga lokuqonda izinto kwakhiwa wulwazi oluqoqwe kusuka kuzo izinzwa zokuthinta, ukubona, ukuhogela, ukunambitha nokuzwa, kanti kuyazisiza izingane ukuthi ziwuqonde kangcono umhlaba. Ukukhula komntwana kunamathele kwakubonayo – njengoba izingane vele zisebenzisa amakhono azo ezicubu ezincane ohambeni lwazo lokuqoqa ulwazi ngezinzwa zazo.

Kubaluleke kakhulu ekufundeni izibalo kubantwana ukusebenzisa izicubu ezincane kanye namakhono okuqonda. Kubandakanya:

- ukufunda ngokubuka
- ♦ ukufunda ngokuzwa
- ukuqonda ngokuthinta nokufunda ngokusebenzisa umzimba.

Ukufunda ngokubuka

Ukuqonda ngokubuka kungachazwa ngokuthi yikhono lokusebenzisa lokho amehlo akubonayo kanye nokuhumusha lolo lwazi lokubonakele. Kunezigaba ezahlukene zamakhono.



Umsebenzi 7

Lokhu okulandelayo yizimo ezibonisa amakhono okubona ezinganeni ezincane.

- 1. Funda ulwazi ngombono obonakalayo emakhasini 64–67 *Umhlahlandlela Wokuqonda Isifundo,* futhi ubone ukuthi yimaphi amakhono okubona enziwa yizingane ezivezwe ngezansi.
- ♦ UWelekazi uyadlala endaweni yokudlala yokuzenzela. Ubheka aphinde athole izicathulo zakhe ezithandekayo ezibomvu phakathi kwazo zonke ezinye izicathulo kuwodilophu.
- ♦ Uthisha wenza iphethini yobuhlalu obunemibala ehlukahlukene entanjeni. ULeah wenza izintambo zakhe zobuhlalu ngokuphindaphinda iphethini eyenziwe nguthisha wakhe.

2.	What are the kinds of activities you have done in your Grade R class that support these perceptual skills?
Auc	ditory perception litory perception is the ability to use what the ears hear and to interpret this litory information. There are different categories of auditory perceptual skills.
The	Activity 8 following are scenarios that illustrate auditory perceptual skills in young children.
1.	 Read the information on auditory perception on page 68 of the <i>Concept Guide</i> 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.	Yiziphi izinhlobo zemisebenzi oyenzile ekilasini lakho leBanga R ezesekela la makhono okubona?
Ukı	ufunda ngokulalela ufunda ngokulalela kona yikhono lokusebenzisa lokho okuzwiwa yizindlebe, tuhumusha lolo lwazi oluzwakalayo. Kunezigaba ezahlukene zamakhono okuzwa.
Lok	Umsebenzi 8 thu okulandelayo yizimo ezibonisa amakhono okufunda ngokulalela ezinganeni ezincane.
1.	 Funda ulwazi olumayelana nokufunda ngokulalela ekhasini 69 loMhlahlandlela Wokuqonda Isifundo, ubone ukuthi yimaphi amakhono okufunda ngokulalela izingane ezingezansi eziwenzayo. ◆ URaiz udlala endaweni enomsindo. Ngisho noma kukhona abafundi abaningi abanye abamzungezile abakhulumayo njengoba bedlala, angagxila kulokho uthisha wakhe amcela ukuba akwenze ngamabhulokhi.
	◆ UThobeka ulalele uthisha wakhe njengoba ebala izinto zokubala eziyishumi ngesikhathi ezibeka kumata. Ukhumbula lokho akuzwile futhi uyakuphinda ngokulandelana kwezinombolo: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10.
2.	Yiziphi izinhlobo zemisebenzi oyenzile ekilasini lakho leBanga R ezesekela la makhono okulalela?

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*.

Ukuqonda okuthintwayo kanye nokunyakaza komzimba

Lezi zinhlobo ezimbili zokuqonda ezilandelayo ziyahambisana. Ukuqonda okuthintwayo, ukukwazi ukubona okufanayo kanye nokwehlukile endleleni izinto ezizwakalo ngayo. Ukukwazi ukusebenzisa umzimba, ukusebenzisa iminyakazo yomzimba kanye nemizwa yezicubu. Uma kudidiyelwa, kuhlinzekwa ingqondo ngolwazi.

Umsebenzi 9
Singabasiza kanjani abafundi ukuba bathuthukise umbono wabo wokuzibamba nokusebenza komzimba ngokuphathelene nokusebenza kwezinzwa?

Bheka eminye imibono yomsebenzi ekhasini 69 lo*Mhlahlandlela Wokuqonda Isifundo*.

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
 - o teacher-guided
 - o 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.

Iseshini 6: Ukuhlelela ukufundisa

1½ amahora

Kubalulekile ukuhlela nokulungiselela kahle isonto ngalinye. Lokhu kuzokuvumela ukuthi uzizwe uqiniseka ngokwenzayo, futhi kukusize ukuthi ugxile ekufundiseni nasekusebenzeni nabafundi. Njengoba usuvele uhlangabezane nalo kuThemu 1 no-2 Uhlelo Lwezibalo, uzobona ukuthi luhlelwe ngokucophelela, nolwazi lwezibalo lwavezwa ngokulandelana kwentuthuko okuqhubekayo. Kuklanyelwe ukuqinisekisa ukuthi konke okuqukethwe, namakhono ezibalo zeBanga R kuhlanganisiwe, kanti abafundi balilungele kahle Ibanga 1. Othisha kudingeka baqaphele uma bekhetha imisebenzi emasontweni ahlukene beshiya eminye ngaphandle.



Umsebenzi 10

Umdidiyeli wakho uzofaka iqembu ngalinye kungaba ngeSonto 1, 2 noma 3 leThemu 3 ukuthi ligxile kuyo.

- 1. Bheka ikhasi 19 lo*Mhlahlandlela Wemisebenzi: Ithemu 3* ukuhlonza Ingxenye Yolwazi Okugxilwe Kuyo ngesonto lakho.
- 2. Thola ingxenye yolwazi ye-CAPS yale Ngxenye Yolwazi Okugxilwe Kulo emakhasini 114–137 *Umhlahlandlela Wokuqonda Isifundo*.
- 3. Funda ingxenye yolwazi yesonto olinikezwe *Umhlahlandlela Wemisebenzi: Ithemu 3*.
- 4. Qedela ithempulethi lokuhlela kuSithasiselo A ukuze ugxilise okugxilwe kukho kwekilasi lonke kanye nemisebenzi yeqembu elincane. Xoxa ngalokhu okulandelayo ukuze kube umhlahlandlela ekuhleleni kwakho:
 - ♦ Ulwazi olusemqoka kokuzofundwa ngabafundi kuleli sonto
 - ♦ Isihloko
 - ♦ Ulwazi olusha oluzokwethulwa
 - Amakhono avela emasontweni aphambilini okufanele kuzejwayezwe wona
 - Indlela abafundi abazofundiswa ngayo futhi abazofunda ngayo ngesikhathi:
 - semisebenzi yekilasi lonke
 - semisebenzi yamaqembu amancane
 - o beholwa nguthisha
 - o amagembu amancane azimele (ezindaweni zokusebenzela).
- 5. Ukukhomba noma yiziphi izinselele ezingaba khona ekusebenziseni imisebenzi yesonto olinikeziwe. Yethula iziphakamiso zokuxazulula noma ukunciphisa lokhu. Qopha amaphuzu akho eshadini eliphenywayo ukuze wabelane neqembu lonke.

Closing activities

30 minutes



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.

Imisebenzi yokuvala

30 imizuzu



Ukudlinza ngomhlangano wokucobelelana: Cela ababambiqhaza ukuthi bacabange ngalolo suku okwesikhashana, bese begijimisa amehlo kw*iNcwadi Yokusebenzela Yababambiqhaza*. Bacele babhale noma yimiphi imibuzo nemibono abazoxoxa ngayo eqenjini lonke.

Umdidiyeli uzoyalela amaqembu emaphepheni asezindongeni. Ikhasi ngalinye lizokukhuthaza ukuthi uphawule kanjani.



Umsebenzi obuyela nawo esikoleni

- 1. Sebenzisa Ithempulethi Yokuhlela Yamasonto Onke yeThemu 3 Isithasiselo A ukuhlela nokusebenza kweThemu 3 Amasonto 1–3 oHlelo Lwezibalo.
- 2. Bhala ukuthi walusebenzisa kanjani uhlu lokubheka (ebhokisini leso) 'Ukuhlola ukuthi abafundi bayakwazi uku-' ngesikhathi ngasinye semisebenzi eholwa nguthisha.
- 3. Bhala usho ukuthi yini esebenze kahle, yini engasebenzanga kahle, nokuthi yini ongayenza ngendlela ehlukile ukuze uthuthukise ukufundisa nokufunda.
- 4. Letha lokho okubhalile emhlanganweni olandelayo wokucobelelana ngolwazi.

Ukuhlola

Gcwalisa Ifomu Lokuhlola.

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 **Activity 2** Day 2 **Activity 3** Day 3 Day 4 **Activity 4** Day 5

ISITHASISELO A: ITHEMU 3 ITHEMPULETHI YOKUHLELA KWAMASONTO ONKE

Ithemu 3: Uhlelo Lomsebenzi: Isonto ____ INGXENYE YOLWAZI: ISIHLOKO: YETHULA ULWAZI OLUSHA: ZEJWAYEZE: Imisebenzi yekilasi lonke Umsebenzi oholwa nguthisha Imisebenzi yesiteshi sokusebenzela (imisebenzi ezimele yeqembu elincane) Usuku 1 Umsebenzi 1 Umsebenzi 2 Usuku 2 Umsebenzi 3 Usuku 3 Umsebenzi 4 Usuku 4 Usuku 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?

Ifomu Lokuhlola Lomhlangano Wokucobelelana Ngolwazi 7

1.	Ngabe umhlangano wokucobelelana ngolwazi uhlangabezene nalokho obukulindele?
2.	Yini oyifundile kulo mhlangano wokucobelelana ngolwazi ekusize kakhulu?
3.	Ngabe kukhona ongakuthandanga noma okuthola kunzima ukukuqonda?
4.	Uzokusebenzisa kanjani lokho okufundile ekilasini lakho leBanga R?
5.	Ngabe unazo iziphakamiso ezingathuthukisa eminye imihlangano yokucobelelana ngolwazi?