

**Luhlelo Lwekwenta Kancono
Tibalo TeLibanga R
Grade R Mathematics
Improvement Programme**



**Umhlanganosikolo 10 • Workshop 10
Incwadzi Yekusebentela Yemhlanganyeli • Participant's Workbook**

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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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Overview

Purpose

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

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 implementation of the Maths Programme and discuss their planning, teaching and assessment. They will also consider learner progress, and individual developmental and learning needs. Participants will reflect on appropriate assessment strategies for capturing learner progress. The workshop explores the content for Term 4 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 3 Weeks 7–10
- ◆ To reflect on the use of the guiding principles of teaching maths in Grade R
- ◆ To deepen understanding of continuous learner observation in Grade R
- ◆ To reflect on informal forms of assessment in Grade R
- ◆ To reflect on challenges and find solutions to implementing the Maths Programme
- ◆ To map out the Maths Programme content to be taught in Term 4 Weeks 1–3

Workshop content

- ◆ Opening and reflection (1 hour)
- ◆ Iseshini 1: Observation and assessment (1 hour)
- TEA
- ◆ Iseshini 2: The guiding principles of teaching maths in Grade R (1 hour)
- ◆ Iseshini 3: Introducing numbers 10 and 0 (1 hour)
- LUNCH
- ◆ Session 4: Planning for teaching (1½ hours)
- ◆ Closing activities (30 minutes)

Sibutsetelo

Inhloso

Lona ngumhlanganosikolo welishumi walelishumi nakubili yeLuhlelo Lwekwenta Kancono Tibalo TeLibanga R (Luhlelo Lwetibalo), loyincenye yeLitiko Letemfundvo laseGauteng (Gauteng Department of Education (GDE) Umklamo Wetibalo TeLibanga R Nekwenta Kancono Lulwimi.

Inhloso yalomhlanganosikolo kusita bothishela kutsi bafezekise Luhlelo Lwetibalo emaklasini abo. Bahlanganyeli batawuba nelitfuba lekubuyeketa kubukisisa kwabo. Batawehlwaya kutsi imitsetfomgomo yekufundzisa letikhombindlela tibalo kuLibanga R ifanele kutsi ikwesekela kanjani kuhlela, kufundzisa kanye nekuhlola. Batawuphindze futsi bacabange ngenchubekembili yemfundzi, kanye nekutfufuka kwangamunye netidzingo tekufundza. Lomhlanganosikolo wehlwaya lokucuketfwe kweThemu 4 Emaviki 1–3 nekufezekiswa kwawo eklasini.

Emareferensi kuMikhakha Yalokucuketfwe Tibalo TeLibanga R atsetfwe *kuSitatimende Senchubomgomo Yekharikhulamu Nekuhlola (i-CAPS): Tibalo TeLibanga R (Luhlaka Lwekugcina)*, 2011, Litiko Letemfundvo Lesisekelo, laseNingizimu Afrika.

Imiphumela yekufundza

- ◆ Kubuyeketa kufezekiswa kweThemu 3 Emaviki 7–10
- ◆ Kubuyeketa kusetjentiswa kwemitsetfosimiso leyinkhombandlela yekufundzisa tibalo kuLibanga R
- ◆ Kujulisa kuvisisa kubukisiswa kwemfundzi lokuchubekako kuLibanga R
- ◆ Kubuyeketa emafomu ekuhlola langakahleleki kuLibanga R
- ◆ Kubuyeketa tinsayeya tetisombululo tekufezekisa Luhlelo Lwetibalo
- ◆ Kuhlela lokucuketfwe kweLuhlelo Lwetibalo lokutawufundziswa kuThemu 4 Emaviki 1–3

Lokucuketfwe kwemhlanganosikolo

- ◆ Kuvula nekubuyeketa (1 li-awa)
- ◆ Iseshini 1: Kubukisisa neluhlolo (1 li-awa)

LITIYA

- ◆ Iseshini 2: Imitsetfosimiso leyinkhombandlela yekufundzisa tibalo kuLibanga R (1 li-awa)
- ◆ Iseshini 3: Wetfula tinombolo 10 na-0 (1 li-awa)

KUDLA KWASEMINI

- ◆ Iseshini 4: Kuhlelela kufundzisa (1½ ema-awa)
- ◆ Imisebenti yekuvala (30 emaminitisi)

Opening and reflection

1 hour

Reflection involves thinking and talking about your experiences and what you have learnt.

Reflection on implementation

Here is the *Take back to school task* from Workshop 9.



Take back to school task (Workshop 9)

1. Use *Activity Guide: Term 3* to plan and implement Term 3 Weeks 7–10 of the Maths Programme.
2. Make notes of what worked well, what did not work well and how you resolved any challenges during your implementation of Term 3 Weeks 7–10.
3. Write comments in the book that you use to keep track of each learner’s progress (learner observation book). Use the ‘**Check that learners are able to**’ observation list (eye box) during each of the teacher-guided activities to guide your observations and comments.
4. Bring your learner observation book and the notes you made when reflecting on each day’s teaching to the next workshop.
5. Bring a copy of the Term 3: Exemplar Record of Continuous Assessments (from *Activity Guide: Term 3*) to the next workshop.



Activity 1

1. In your group, prepare a newspaper article on teaching and learning maths in Grade R. Use the Maths Programme and your classroom implementation of it as the basis for your article. Include the following:
 - ◆ why maths in Grade R is important
 - ◆ your successes and challenges with implementing the Maths Programme in Terms 1, 2 and 3
 - ◆ strategies you used to resolve challenges.

Kuvula nekubuyeketa

1 li-awa

Kubuyeketa kufaka ekhatsi kucabanga nekukhuluma ngaloko lohlangabetene nako kanye naloko lokufundzile.

Kubuyeketa nekufezekisa

Nawu *Umsebenti wekubuyisela emuva eklasini* lowentiwe kuMhlanganosikolo 9.



Umsebenti wekubuyisela emuva esikolweni (Umhlanganosikolo 9)

1. Sebentisa *Inkhombandlela Yemsebenti: Ithemu 3* kuhlela nekufezekisa Ithemu 3 Emaviki 7–10 eLuhlelo Lwetibalo.
2. Bhala emanotsi aloko lokwentekela kahle kakhulu nekutsi tinsayeya utisombulule kanjani ngesikhatsi sekufezekisa Ithemu 3 Emaviki 7–10.
3. Bhala kuphawula encwadzini lobhalela kuyo inchubekembili yemfundzi ngamuye (incwadzi yekubukisisa bafundzi) Sebentisa '**Hlola kutsi bafundzi bayakhona ku'** (libhokisi leliso) ngesikhatsi semsebenti loholwa nguthishela ngamunye kukhombindlela kuphawula nekubukisisa kwakho.
4. Wota nencwadzi yekubukisisa bafundzi bakho bese ubhala emanotsi lowente ngesikhatsi ubuyeketa kufundzisa kwelilanga ngalinye kuMhlanganosikolo lolandzelako.
5. Wota nekhophi yeThemu 3: Sibonelo seLirekhodi leLuhlolo Loluchubekako (lesiku*Nkhombandlela Yemsebenti: Ithemu 3*) kumhlanganosikolo lolandzelako.



Umsebenti 1

1. Ecejini lakho, lungiselela i-athikili yeliphephandzaba lemayelana nekufundzisa nekufundza tibalo kuLibanga R. Sebentisa loLuhlelo Lwetibalo nekuyifezekisa kwakho eklasini njengesisekelo se-athikili yakho. Faka ekhatsi naku lokulandzelako:
 - ◆ kungani tibalo tibalulekile kuLibanga R
 - ◆ timphumelelo netinsayeya takho mayelana nekufezekisa Luhlelo Lwetibalo kuMathemu 1, 2 na-3
 - ◆ emasubuciko lowasebentisile kutisombulula.

2. Write the newspaper article on flipchart paper.
3. You will present your article to the other groups and answer any of their questions.

2. Bhala le-athikili yeliphephandzaba ephepheni lefliphushadi.
3. Utawetfula i-athikili yakho kulawa lamanye emacembu bese uphendvula nanoma nguyiphi imibuto yabo.

Session 1: Observation and assessment

1 hour

Observation in Grade R

Observation is an important part of the process of teaching, learning and assessment. In Grade R, the main assessment method is observation. Teachers gather information about learners during whole class activities, small group activities and free play (inside and outside the classroom). During the teacher-guided activities, your interaction with individual learners provides valuable information about their progress. By recording the learners' progress in understanding specific maths concepts in your notebook on an ongoing basis, you build up a complete picture of each learner.

Objective observation

For observation to be effective, teachers need to understand and know what to focus on.

In the next activity, you will practise your observation skills. *This is an individual activity. It is very important that you do not talk to anyone about your observations.*



Activity 2

Look at the photograph of two Grade R learners playing with blocks. Write down what you observe when you look at the photograph.



Iseshini 1: Kubukisisa neluhlolo

1 li-awa

Kubukisisa kuLibanga R

Kubukisisa kuyincenye lebalulekile yenchubo yekufundzisa, kufundza kanye nekuhlola. KuLibanga R, indlela lenkhulu yekuhlola kubukisisa. Bothishela bagcogca lwatiso ngebafundzi ngesikhatsi semisebenti yeliklasi lonkhe, imisebenti yemacembu lamancane kanye nekudlala lokukhululekile (ngekhatsi nangaphandle kweliklasi). Ngesikhatsi semisebenti leholwa nguthishela, kukhulumisana kwakho nebafundzi ngabanye kuniketa lwatiso lolubalulekile mayelana nenchubekembili. Ngekurekhoda inchubekembili yebafundzi ekuvisiseni imicondvo yetibalo letitsite ebhukwini lakho lemanotsi ngalokuchubekako, wakha sitfombe lesiphelele semfundzi ngamunye.

Kubukisisa lokungakhetsi luhlangotsi

Kute kutsi kubukisisa kuphumelele, bothishela badzinga kuvisisa nekwati kutsi yini labafanele kutsi bagcile kuko.

Kulomsebenti lolandzelako, utawutetayeta emakhono ekubukisisa. *Lona ngumsebenti wangamunye. Kubalulekile kutsi ungatjeli muntfu ngekubukisisa kwakho.*



Umsebenti 2

Buka sitfombe sebafundzi beLibanga R lababili labadlala ngemabhlokhi. Bhala phasi lokubonako uma ubuka lesitfombe.



My observations:



Video 1

1. Watch the video of a group of learners playing the game, Bingo. Write down your observations of the learners.

2. Which of your observations are facts and which are assumptions? Go through your list and write an 'F' or 'A' next to each statement.

When we write what we **think** a learner can or cannot do, or what a learner is feeling, we are making assumptions. The only way to know what a learner is thinking or feeling, is to ask them to tell you.

Objective observation involves:

- ◆ describing only what you see and hear
- ◆ recording what the learner is doing and saying in as much detail as possible
- ◆ not judging – avoid giving your own ideas and opinions
- ◆ observing each learner regularly, in different activities and at different times of the day.

Kubukisisa kwami:



Ividiyo 1

1. Bukela ividiyo yelicembu lebafundzi badlala umdlalo, iBingo. Bhala phasi kubukisisa kwakho bafundzi.

2. Ngukuphi kubukisisa kwakho lokuliciniso futsi ngukuphi lokungulokucatjangwako? Buka luhlu lwakho bese ubhala 'Li' noma 'Lo' eceleni kwesitatimende ngasinye.

Uma sibhala loko **lesikucabanga** kutsi umfundzi uyakhona kukwenta noma akakhoni kukwenta, noma loko lokuviwa ngumtali, sisuke sicabanga. Indlela yinye yekwati kutsi umfundzi ucabangani noma uvani, kutsi ubacele kutsi bakutjele.

Kubukisisa lokungakhetsi luhlangotsi kufaka ekhatsi:

- ◆ kuchaza kuphela loko lokubonako nalokuvako
- ◆ kubhala loko umfundzi lakwentako nalakushoko ngalokwenabile
- ◆ unghluleli – gwema kuniketa yakho imibono nemicondvo
- ◆ kubukisisa umfundzi ngamunye njalo-nje, emisebentini leyehlukene futsi nangetikhatsi letehlukene telilanga.



Activity 3

1. Think about your observations of *one* of your learners in Term 3. What mathematical knowledge and skills is this learner developing?

2. Refer to (3) to (5) of the *Take back to school task* from Workshop 9 (page 8).
 - ◆ Discuss your use of the '**Check that learners are able to**' observation list (eye box) during teacher-guided activities.
 - ◆ Show members of your group your learner observation book.
 - ◆ Take turns to discuss a learner's progress. Which mathematical skills did you observe? How do you know? (What did the learner do and say?)
 - ◆ Explain how you captured this information using the Term 3: Exemplar Record of Continuous Assessments.
 - ◆ Did you manage to implement a differentiated approach to teaching and learning in your class. If so, how?

Assessment in Grade R

Assessment in Grade R is used to make decisions about the best way to support each learner's development. During teacher-guided activities, whole class activities as well as other activities in the daily programme, you will have opportunities to observe learners and gain insight into their progress. This information should guide your planning for further teaching and learning.

The continuous assessment tables in CAPS and in the Maths Programme's *Activity Guides* are based on the content that has been taught each term and can be used to summarise each learner's progress during the term.

Note that skills and behaviours should be observed on several occasions so that patterns of development over time can be recorded.



Umsebenti 3

1. Cabanga ngekwakho kubukisisa kwamuye webafundzi bakho kuThemu 3. Nguluphi lwati nemakhono etibalo lawatfutfukisako lomfundzi?

2. Buka (3) kuya ku-(5) weMsebenti kubuyisela emuva esikolweni lokuMhlanganosikolo 9 (likhasi 9).

- ◆ Khuluma ngekusebentisa luhlu lwakho lweku'**Hlola kutsi bafundzi bayakhona ku'** (ebhokisini leliso) ngesikhatsi sangamunye semisebenti leholwa nguthishela.
- ◆ Khombisa emalunga elicembu lakho incwadzi yekubukisisa bafundzi.
- ◆ Nikanani ematfuba ekukhuluma ngenchubekelebili yemfundzi. Nguwaphi emakhono etibalo lowabukisisile? Wati kanjani? (umfundzi wenteni noma utsiteni?)
- ◆ Chaza kutsi ulubhale kanjani lolwatiso usebentisa iThemu 3: Sibonelo seLirekhodi Leluhlolo Loluchubekako.
- ◆ Ukhonile yini kufezekisa indlela leyehlukahlukile kufundzisa nekufundza eklasini. Uma ngabe kunjalo, ukwente kanjani?

Kuhlola kuLibanga R

Luhlolo kuLibanga R lusetjentiselwa kutsatsa tincumo mayelana nendlela lekahle kakhulu yekwesekela kutfutfuka kwemfundzi ngamunye. Ngesikhatsi semisebenti leholwa nguthishela, imisebenti yeliklasi lonkhe kanye naleminye imisebenti kuluhlelo lwemalanga onkhe, utawuba nelitfuba lekubukisisa bafundzi bese utfola lwati mayelana nenchubekelebili yabo. Lolwatiso lufanele kutsi lukhombindlela kuhlela kwakho kwekufundzisa nekufundza lokuchubekako.

Emathebula eluhlolo loluchubekako ku-CAPS naku*Tinkhombandlela Temsebenti* weLuhlelo Lwetibalo amiselwe kulokucuketfwe lokufundziswe kuthemu ngayinye futsi kungasetjentiselwa kubutsetela inchubekelebili yemfundzi ngamunye ekuhambeni kwethemu.

Caphela kutsi emakhono netindlela tekutiphatsa tifanele kutsi tibukisiswe kanyenti kute kutsi emaphethini ekutfutfuka ekuhambeni kwesikhatsi afanele kutsi abhalwe.

Session 2: The guiding principles of teaching maths in Grade R

1 hour

Throughout the Maths Programme training, we have referred to the guiding principles of teaching maths in Grade R and how these are incorporated into daily classroom practice. Some of the principles are easier to identify and implement than others. As teachers we need to be constantly aware of how, where and when we are using these principles in our classrooms.



Activity 4

The facilitator will assign one of the guiding principles of teaching maths in Grade R to your group. You will receive a picture of this principle.

1. In your group, discuss the following questions:
 - ◆ What is your understanding of this principle ‘in action’?
 - ◆ Does the Maths Programme make it possible to incorporate this principle in your daily teaching?
 - ◆ Now that you have implemented the Maths Programme for three terms, what are your reflections on this principle?
 - ◆ How would your teaching be affected if this principle was absent from your classroom approach?
2. Paste the picture onto a sheet of flipchart paper. Write your comments below the picture so that you can share these with the whole group.

Ishini 2: Imitsetfosimiso leyinkhombandlela yekufundzisa tibalo kuLibanga R

1 li-awa

Kuko konkhe kucecehwa kuLuhlelo Lwetibalo, sitsatsise kuMitsetfosimiso leyinkhombandlela yekufundzisa tibalo kuLibanga R nekutsi ifakwa isetjentiswe kanjani eklasini onkhe emalanga. Leminye yalemitsetfomgomo kulula kuyibona nekuyifezekisa kunaleminye. Sibothishela sifanele kutsi sihlale sicaphela njalo-nje kutsi lemitsetfosimiso siyisebentisa kanjani, kuphi futsi nini emaklasini etfu



Umsebenti 4

Umfundzisi utawunika licembu lakho munye weMitsetfosimiso leyinkhombandlela yekufundzisa tibalo kuLibanga R. Utawutfole sitfombe salomtsetfosimiso.

1. Ecejini lakho, khuluma ngalemibuto lelandzelako:
 - ◆ Uvisisani ngalomtsetfosimiso 'kwenta'?
 - ◆ Ngabe Luhlelo Lwetibalo lwenta kukhoneke kufaka lomtsetfosimiso ekufundziseni kwakho kwemalanga onkhe?
 - ◆ Manje ngoba sewufezekise Luhlelo Lwetibalo lwalamathemu lamatsatfu, kutsini kubuyeketa kwakho mayelana nalomtsetfosimiso?
 - ◆ Kufundzisa kwakho bekutawutsintseka kanjani uma ngabe lomtsetfosimiso bewungekho ekubukaneni neliklasi lakho?
2. Namatsisela lesitfombe ephepheni lelikhulu lefliphushadi. Bhala kuphawula kwakho ngaphasi kwalesitfombe kute kutsi wabelane loku nelicembu lonkhe.



1. The context principle. Learning takes place in meaningful and appropriate situations.



2. The activity principle. Learners should be directly involved in the learning-teaching process.



8. The practice principle. Learning is consolidated through practising new skills and knowledge.



7. The inclusivity principle. Learning takes place in an environment where everyone is welcomed, included, treated fairly, respected and can participate.

THE EIGHT PRINCIPLES OF GRADE R MATHS



3. The play principle. Children learn best in free-play and guided-play activities.



6. The guidance principle. Learning takes place when teachers guide learners in developing new knowledge.



5. The interaction principle. Learning takes place when there is communication and sharing of ideas.



4. The level principle. Learners pass through various levels of understanding and development.



8. **Umtsetfosimiso wekutetayeta kwenta.** Kufundza kuciniswa kutetayeta emakhono lamasha nelwati.



1. **Umtsetfosimiso wengcikitsisimo.** Kufundza kwenteka etimeni letisho lokutsite lokwakhako futsi letifanele.



2. **Umtsetfosimiso wemsebenti.** Bafundzi kufanele batibandzakanya-ngco enchubeni yekufundza nekufundzisa.



7. **Umtsetfosimiso wekufaka wonkhewonkhe ekhatsi.** Kufundza kwenteka kusimondzawo lapho wonkhe umuntfu emukelekile, afakwa ekhatsi, aphantfwa kahle, ahlonishwa futsi akhona kuhlanguyela.



3. **Umtsetfosimiso wekudlala.** Bantfwana bafundza kancono uma badlala ngekukhululeka futsi nasemisebentini yekudlala lekhonjwindlela.



6. **Umtsetfosimiso wekhombindlela.** Kufundza kwenteka ngesikhatsi thishela abeluleka bafundzi ekutfufukiseni lwati lolusha.



5. **Umtsetfosimiso wekuhlanguana.** Kufundza kwenteka uma kunekuchumana nekwabelana ngemibono.



4. **Umtsetfosimiso welizinga.** Bafundzi bendlula emazingeni lamanyenti ekuvisisa nekutfufuka.

Session 3: Introducing numbers 10 and 0 1 hour

Introducing number 10

The ten numerals used in our place value number system are 0, 1, 2, 3, 4, 5, 6, 7, 8 and 9. These numerals are used to represent units (ones) and to represent an infinite number of values, for example:

- ◆ tens
- ◆ hundreds
- ◆ thousands, and so on.

Learners in the Foundation Phase need to understand that the same numeral can be used to represent different values, depending on the position of the numeral in a number. For example, in each of the numbers below '3' has a different value:

- ◆ in 3, its value is 'three'
- ◆ in 31, its value is 'thirty'
- ◆ in 349, its value is 'three hundred'.

Place value is a difficult concept for learners to understand. Researchers have found that many learners up to the age of eight think that the '1' in 15 means 'one'.

In Grade 1 learners explore the base ten number system, working with numbers from 11 onwards. They represent these numbers with groups of tens and single ones (units). When they work with numbers 11–19, they begin to understand that in a number like 14, the numeral 1:

- ◆ does not mean 1
- ◆ represents 10 ones
- ◆ therefore, is also 1 ten (1 group of ten).

They also understand that the numeral 4 in 14, represents 4.

DID YOU KNOW?

In the Foundation Phase, learners talk about 'tens' and 'units' as 'groups of ten' and single 'ones'. They represent two-digit and three-digit numbers using grouping models and expanding number cards.

Iseshini 3: Kwetfula tinombolo 10 na-0

1 li-awa

Kwetfula inombolo 10

Letimphawunombolo letilishumi letisetjentiswe enchubeni yetfu yesimelibungako nguleti 0, 1, 2, 3, 4, 5, 6, 7, 8 na-9. Letimphawunombolo tisetjentiselwa kukhombisa tinombololugweje (bokunye) kanye nekukhombisa inombolo lengenamkhawulo yebungako, sibonelo:

- ◆ emashumi
- ◆ emakhulu
- ◆ tinkhulungwane, njalonjalo.

Bafundzi kuSigaba Sabokhewana badzinga kuvisisa kutsi tona leto tinombolo tingasetjentiselwa bungako lobehlukene, ngekuya ngesikhundla senombolo enombolweni. Sibonelo, ngayinye yaletinombolo letingaphasi '3' tinebungako lobehlukene:

- ◆ ku-3, bungako bako ngu'kutsatfu'
- ◆ ku-31, bungako bawo nge'mashumi lamatsatfu'
- ◆ ku-349, bungako bakhe nge'makhulu lamatsatfu'.

Simelibungako ngumcondvo lomatima kutsi bafundzi bangawuvisisa. Bacwaningi batfole kutsi bafundzi labanyenti kufika kuminyaka yebudzala lesiphohlongo bacabanga kutsi '1' ku-15 usho 'kunye'.

Bafundzi beLibanga 1 bahlatiya indlela yesidesimali, bayebenta ngetinombolo kusuka ku-11 kuya embili. Bakhombisa letinombolo ngemacembu emashumi nabolugweje banye (tinombololugweje). Uma basebenta ngetinombolo 11-19, bacala kuvisisa kutsi inombolo njenge-14, luphawunombolo 1:

- ◆ alusho 1
- ◆ lukhombisa bokunye laba-10
- ◆ ngako-ke, kuphindze futsi kube lishumi li-1 (li-1 licembu lemashumi).

Baphindze futsi bavisise kutsi luphawunombolo 4 ku-14, lumele 4.

BEWATI YINI?

KuSigaba Sabokhewana, bafundzi bakhuluma nge'mashumi' ne'tinombololugweje' njenge'macembu emashumi' nabo 'lugweje' banye. Bakhombisa tinombolo letinemadijithi lamabili naletinemadijithi lamatsatfu basebentisa emamodeli ekubeka ngemacembu kanye nemakhadi etinombolo telubhalokwenaba.

We do not introduce place value in Grade R. The focus in this grade is on understanding the value of the numbers 0–10 and on building a strong number concept within this range. If learners have a good concept of the numbers to 10, this knowledge can be extended in Grade 1 and other grades.



Activity 5

IMPORTANT!

This activity is for the development of your own knowledge and enrichment. It is not appropriate for Grade R learners. Do NOT introduce this activity in Grade R.

Use the counters, sticks and number cards provided to represent the following numbers:

14 31 22 43

1. Represent each number using counters: make groups of ten and single ones.
2. Represent each number using sticks and string: make bundles of ten and single ones.
3. Label the bundles with the correct number cards.
4. Talk about how many groups of ten and how many ones each number has.
5. Discuss the value of each numeral.

6. Which apparatus do you think was more appropriate for representing the concepts of 'groups of ten' ('tens') and 'ones'? Explain your answer.

7. What do you notice about the value of the numerals in the numbers you represented with the number cards?

Asisetfuli simelibungako kuLibanga R. Kugcila kulelibanga kusekuvisiseni bungako benombolo 0–10 kanye nasekwakheni umcondvo wetinombolo locinile kulomkhakha. Uma ngabe bafundzi banemcondvo lokahle wetinombolo kuya ku-10, lolwatiso lolu lungachutjelwa kuLibanga 1 nakulamanye emabanga.



Umsebenti 5

LOKUBALULEKILE!

Lomsebenti lona wekutsi utfutfukise lwati lwakho nekutenta ncono.

Awukabafaneli bafundzi beLibanga R. UNGAWETFULI lomsebenti lona kuLibanga R.

Sebentisa tibali, tintsu nemakhadi etinombolo laniketiwe kute ukhombise letinombolo letilandzelako:

14 31 22 43

1. Khombisa inombolo ngayinye usebentisa tibali: yenta emacembu emashumi netinombololugweje tabokunye.
2. Khombisa inombolo ngayinye usebentisa tintsu netintsambo: yakha imitfwadlwana yemashumi nabolugweje bangakunye.
3. Lebula lemitfwadlwana ngemakhadi etinombolo langiwo.
4. Khuluma ngekutsi inombolo ngayinye inamangaki emacembu emashumi nekutsi bangaki bokunye.
5. Khuluma ngebungako beluphawunombolo ngalunye.
6. Ngumaphi ema-apharethasi locabanga kutsi bekakahle kakhulu kukhombisa imicondvo ye‘macembu emashumi’ (‘emashumi’) nabo‘kunye’? Chaza imphendvulo yakho.

7. Yini loyicaphelako ngebungako baletimphawunombolo lotikhombisile kulamakhadi etinombolo?

Grade R learners **do not need to understand place value**. They do need to:

- ◆ understand the value (the 'how muchness') of numbers 0–10
- ◆ understand the different combinations of numbers up to 10
- ◆ understand that even though 10 is made up of the numerals 1 and 0, it is NOT $1 + 0$ and it has its own value ('how muchness')
- ◆ understand and be able to represent the different values of 1, 0 and 10.



Activity 6

1. In your group, discuss ideas for teaching the number 10 in your Grade R classroom. Include the use of different representations.

2. Present your ideas to the whole group.

Introducing number 0

In Grade R, learners need to understand that zero is a number and the number symbol for it is '0'.

Young children find the concept of 'emptiness' difficult to understand. When learners are faced with an empty plate, container, box or bag they will often use words such as 'no more', 'all gone', 'nothing left', 'none' or 'empty' to describe the situation. Teachers should accept these correct descriptions, but should also introduce the word 'zero'. The word 'zero' should be used consistently, even when counting down or backwards, e.g., when counting backwards from four: 'four, three, two, one, zero'. The symbol '0' should be placed on the number washing line. The 0 number cards should be used to represent that an object (such as a plate, tub, lid, box) is empty.

Bafundzi beLibanga R **abadzingi kuvisisa simelibungako**. Badzinga ku:

- ◆ visisa bungako ('ngebungaki') betinombolo 0–10
- ◆ visisa inhlanganisela yetinombolo kufika ku-10
- ◆ visisa kutsi nanoma 10 lakhiwe timphawunombolo 1 na-0, AKUSIYE 1 + 0 futsi unebungako bakhe ('ngebungaki')
- ◆ visisa nekukhona kukhombisa bungako lobehlukene ba-1, 0 na-10.



Umsebenti 6

1. Ecenjini lakho, khulumisanani ngembono wekufundzisa inombolo 10 eklasini lakho leLibanga R. Faka ekhatsi kusebentisa kukhombisa lokwehlukene.

2. Yetfula imibono yakho ecenjini lonkhe.

Kwetfula inombolo 0

KuLibanga R, bafundzi badzinga kuvisisa kutsi ziro uyinombolo nekutsi luphawu lwenombolo lwakhe ngu-'0'.

Bantfwana labancane batfola kumatima kuvisisa umcondvo wekutsi 'kute lutfo/akunalutfo'. Uma bafundzi babukene nelipuleti, simumatsi, libhokisi noma sikhwama lesite lutfo bavamisa kusebentisa emagama lanjengekutsi 'kute lokunye', 'kuphelile konkhe', 'kute lokusele', 'kute' noma 'kute lutfo' kuchaza simo. Bothishela bafanele kutsi batemukele letinchazelo, kepha futsi bafanele kutsi betfule leligama 'ziro'. Leligama lelitsi 'ziro' lifanele kutsi lisetjentiswe njalo-nje, ngisho noma ngabe kubalwa noma kubalwa ngekuya emuva sib., uma ubala uya emuva usuka kukune: 'kune, kutsatfu, kubili, kunye, ziro'. Loluphawu '0' lufanele kutsi lubekwe kulayini wekweneka wetinombolo. Emakhadi enombolo '0' afanele kutsi asetjentiselwe kukhombisa i-objekthi (njengelipuleti, sipakupaku, simbono, libhokisi) kute lutfo.



Video 2

1. Watch the video of a teacher introducing and consolidating the concept of zero.
 - ◆ What do you see happening?
 - ◆ How was the concept of zero introduced?
 - ◆ What did the learners do and say?
 - ◆ What was the role of the teacher?
 - ◆ What was the benefit of using a variety of activities to teach the concept?

2. Write down your observations.



Ividiyo 2

1. Bukela ividiyo yathishela etfula futsi ahlanganisa umcondvo waziro.
 - ◆ Ubona kwentekani?
 - ◆ Lomcondvo warizo wetfulwe kanjani?
 - ◆ Bafundzi benteni futsi batsiteni?
 - ◆ Bekuyini indzima ledlalwe nguthishela?
 - ◆ Kubeyini inzuzo yekusebentisa imisebenti leminyenti leyehlukene kufundzisa lomcondvo?
2. Bhala phasi kubukisisa kwakho.

Session 4: Planning for teaching

1½ hours

This workshop session prepares participants for implementing Term 4 Weeks 1–3. By this stage of the year, the teacher will have noticed distinct differences between learners' levels of progress. Term 4 builds on the content of Terms 1, 2 and 3. Some learners will be ready for this, while others will need support and more consolidation to progress. It is important to plan and prepare for this difference in learner competence to ensure that all the content and skills of Grade R Mathematics are covered, and learners are well prepared for Grade 1.



Activity 7

1. In your group, complete the planning templates for Term 4 Weeks 1–3 (Appendix A).
2. Discuss the following questions:
 - ◆ How is the week structured?
 - ◆ How does the content build on previous lessons?
 - ◆ Do the whole class activities successfully create opportunities for the discussion and exploration of new knowledge?
 - ◆ How does the teacher-guided activity provide opportunities for the teacher to assess and support the learners?
 - ◆ Do the independent small group activities allow for adequate practice of new knowledge and skills?
 - ◆ How could you prepare additional activities to support learners who have not yet mastered a particular skill?
 - ◆ Suggest some ways to extend learning opportunities for advanced learners.
 - ◆ How could you work with a colleague to prepare for each week?

Iseshini 4: Kuhlelela kufundzisa

1½ ema-awa

Leseshini yemhlanganosikolo ilungiselela bahlanganyeli kufezekisa Ithemu 4 Emaviki 1–3. Kulesigaba lesi semnyaka, thishela utawucaphela kutsi ngumuphi umehluko emkhatsini wemazinga enchubekembili yebafundzi. Ithemu 4 yakhela kulokucuketfwe kuThemu 1, 2 neye-3. Labanye bafundzi batawube sebakulungele loku, kantsi labanye bona batawube basadzinga kwesekelwa kanye nekuhlanganisa lokunyenti kunchubekembili. Kubalulekile kulungiselela nekuhlelela lomehluko ekwatini kwebafundzi kucinisekisa kutsi konkhe lokucuketfwe nemakhono eTibalo teLibanga R ayafundvwa, nekutsi futsi bafundzi batilungiselele Libanga 1.



Umsebenti 7

1. Ecenjini lenu, cedzelani ithemplethi yekuhlela yeThemu 4 Emaviki 1–3 (Sengeto A).
2. Khuluma ngalemibuto lelandzelako:
 - ◆ Lihleleke kanjani leliviki?
 - ◆ Lokucuketfwe kwakhela njani etifundvweni letendlulile?
 - ◆ Ngabe imisebenti yeliklasi lonkhe yakhe ngemphumelelo ematfuba ekukhulumisana nekwehlwaya lwati lolusha?
 - ◆ Imisebenti leholwa nguthishela iwaveta njani ematfuba ekutsi thishela ahlole ngemphumelelo aphindze asekele bafundzi ngemphumelelo?
 - ◆ Yenta imisebenti yemacembu lamancane latimele inikete kutetayeta lokwenele lwati nemakhono lamasha?
 - ◆ Ungayilungiselela kanjani imisebenti leyengetiwe kwesekela bafundzi labasengakalibambi likhono lelitsite?
 - ◆ Beka imibono mayelana naletinye tindlela tekwelula ematfuba ekufundza ebafundzi labahamba embili.
 - ◆ Ungasebenta kanjani nemlingani ngekwemsebenti kutsi ulungiselele liviki ngalinye?

Closing activities

30 minutes



Activity 8

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

- ◆ I learnt _____

- ◆ I did not like _____

- ◆ I enjoyed _____

- ◆ I now understand _____

- ◆ I'm still not clear about _____

- ◆ I would like more information on _____

Share your reflections with the whole group.



Take back to school task

1. Use *Activity Guide: Term 4* to plan and implement Term 4 Weeks 1–3 of the Maths Programme.
2. Write comments in the book that you use to keep track of each learner's progress (learner observation book). Use the '**Check that learners are able to**' observation list (eye box) during each of the teacher-guided activities to guide your observations and comments.
3. Make notes of what worked well, what did not work well and how you resolved any challenges during your implementation of Term 4 Weeks 1–3.
4. Bring your learner observation book and the notes you made when reflecting on each day's teaching to the next workshop.

Evaluation

Complete the Evaluation Form.

Imisebenti yekuvala

30 emaminitisi



Umsebenti 8

Lubuyeketo lwemhlanganosikolo: Tsatsa emaminitisi lambalwa ucabange ngalolusuku. Buka yonkhe *Incwadzi Yekusebentela Yemhlanganyeli* utikhumbute ngaloko lokufundziwe. Bhala phasi imicabango yakho.

- ◆ Ngifundze _____
- ◆ Angikatsandzi _____
- ◆ Ngitsandze _____
- ◆ Manje sengiyavisisa _____
- ◆ Solo angikacaciseleki nge _____
- ◆ Ngingatsandza kutfolala lwatiso lolunyenti nge _____

Yabela lonkhe licembu ngelubuyeketo lwakho.



Umsebenti wekubuyisela emuva esikolweni

1. Sebentisa *Inkhombandlela Yemsebenti: Ithemu 4* kuhlela nekufezekisa Ithemu 4 Emaviki 1–3 eLuhlelo LweTibalo.
2. Bhala kuphawula encwadzini lobhalela kuyo inchubekembili yemfundzi ngamunye (incwadzi yekubukisisa bafundzi) Sebentisa luhlu lweku **'Hlola kutsi bafundzi bayakukhona ku'** (libhokisi leliso) ngesikhatsi semsebenti loholwa nguthishela ngamunye kukhombindlela kuphawula nekubukisisa kwakho.
3. Bhala emanotsi ngaloko lokusebente kahle kakhulu nekutsi utisombulule kanjani tinsayeya takho ngesikhatsi sekufezekisa Ithemu 4 Emaviki 1–3.
4. Wota kumhlanganosikolo lolandzelako nencwadzi yakho yekubukisisa nemanotsi lowentile ngesikhatsi ubuyeketa kufundzisa kwelilanga ngalinye:

Kuhlolisisa

Gcwalisa leLiFomu Lekuhlolisisa.

APPENDIX A: TERM 4 WEEKLY PLANNING TEMPLATE

Term 4: 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				

SENGETO A: ITHEMPLETHI YEKUHLELELA LIVIKI LETHEMU 4

Ithemu 4: Luhlelolisu Lwemsebenti: Liviki _____

UMKHAKHA WALOKUCUKETFWE:				
SIHLOKO:				
YETFULA LWATI LOLUSHA:				
TETAYETE:				
Imisebenti yeliklasi lonkhe		Umsebenti loholwa nguthishela	Imisebenti yenzawo yekusebentela (imisebenti letimele yemacembu lamancane)	
Lilanga 1			Umsebenti 1	
Lilanga 2			Umsebenti 2	
Lilanga 3			Umsebenti 3	
Lilanga 4			Umsebenti 4	
Lilanga 5				

Term 4: 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				

Ithemu 4: Luhlelolisu Lwemsebenti: Liviki_____

UMKHAKHA WALOKUCUKETFWE:				
SIHLOKO:				
YETFULA LWATI LOLUSHA:				
TETAYETE:				
Imisebenti yeliklasi lonkhe		Umsebenti loholwa nguthishela	Imisebenti yenzawo yekusebentela (imisebenti letimele yemacembu lamancane)	
Lilanga 1			Umsebenti 1	
Lilanga 2			Umsebenti 2	
Lilanga 3			Umsebenti 3	
Lilanga 4			Umsebenti 4	
Lilanga 5				

Term 4: 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				

Ithemu 4: Luhlelolisu Lwemsebenti: Liviki_____

UMKHAKHA WALOKUCUKETFWE:				
SIHLOKO:				
YETFULA LWATI LOLUSHA:				
TETAYETE:				
Imisebenti yeliklasi lonkhe		Umsebenti loholwa nguthishela	Imisebenti yenzawo yekusebentela (imisebenti letimele yemacembu lamancane)	
Lilanga 1			Umsebenti 1	
Lilanga 2			Umsebenti 2	
Lilanga 3			Umsebenti 3	
Lilanga 4			Umsebenti 4	
Lilanga 5				

Workshop 10 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?

Lifomu Lekuhlolisisa Umhlanganosikolo 10

1. Lomhlanganosikolo ufinyelele yini ezingeni lebewulilindzele?

2. Yini lokufundzile kulomhlanganosikolo lokubalulekile lokukusite kakhulu?

3. Kukhona yini longakakutsandzi noma lokutfole kulukhuni?

4. Utakusebentisa kanjani eklasini leLibanga R loku lokufundzile?

5. Ikhona yini imibono lonayo yekwenta kancono imihlanganosikolo lechubekako?
