

Luhlelo Lwekwenta Kancono Tibalo TeLibanga R Grade R Mathematics Improvement Programme



Umhlanganosikolo 6 • Workshop 6
Incwadzi Yekusebentela Yemhlanganyeli • Participant's Workbook

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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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Overview

Purpose

This is the sixth 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 assist teachers with the implementation of the Maths Programme in their classrooms, especially the Content Areas covered in Term 2 Weeks 8–10. Participants will reflect on their ongoing assessment of learners' progress and will document developmental concerns related to the learners that may require special interventions and support. Participants will also reflect on teaching strategies that strengthen learners' problem-solving skills.

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 4–7
- ◆ To explore strategies to support teaching maths in Grade R
- ◆ To reflect on the Maths Programme's principles in the weekly plan
- ◆ To engage with the Maths Programme content of Term 2 Weeks 8–10 (Space and Shape (Geometry); Measurement; Numbers, Operations and Relationships)
- ◆ To apply knowledge of informal, continuous assessment to learning and teaching

Workshop content

◆ Opening and reflection	(1 hour)
◆ Session 1: Space and Shape (Geometry)	(1 hour)
TEA	
◆ Session 2: Measurement	(1 hour)
◆ Session 3: Numbers, Operations and Relationships	(1 hour)
LUNCH	
◆ Session 4: Numbers, Operations and Relationships	(45 minutes)
◆ Session 5: Term 2 Assessment	(1 hour)
◆ Closing activities	(15 minutes)

Sibutsetelo

Inhloso

Lona ngumhlanganosikolo wesitfupha walelelishumi nakubili yeLuhlelo Lwekwenta Kancono Tibalo TeLibanga R (Luhlelo Lwetibalo), loyinceny 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, ikakhulu Imikhakha Yalokucuketfwe leyentiwe kuThemu 2 Emaviki 8-10. Bahlanganyeli batawubuyeketa luhlolo lwabo loluchubekako lwenchubekelimbili yebafundzi futsi batawubhala phasi kutfutfuka labakhatsateka ngako lokuphat selene nebafundzi lokungadzinga tingenelole nekwestekela lokuhetsekile. Bahlanganyeli batawuphindze futsi babuyekete emasubuciko ekufundzisa lacinisa emakhono ebafundzi ekusombulula tinkinga.

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

Imiphumela yekufundza

- ◆ Kubuyeketa kufezekiswa kweThemu 2 Emaviki 4-7
- ◆ Kwehlwaya emasubuciko kwesekela kufundzisa tibalo kuLibanga R
- ◆ Kubuyeketa imitsetfosimiso yeLuhlelo Lwetibalo ekuhleleni kwanjalo ngeliviki
- ◆ Kusebentisa lokucuketfwe kweLuhlelo Lwetibalo kweThemu 2 Emaviki 8-10 (Sikhala naBunjwa (Ijomethri); Kulinganisa; Tinombolo, Ema-ophareshini neBudlelwane)
- ◆ Kusebenta luhlolo lolungakahleleki, loluchubekako ekufundziseni nasekufundzeni

Lokucuketfwe kwemhlanganosikolo

- ◆ Kuvula nekubuyeketa (1 li-awa)
- ◆ Iseshini 1: Sikhala naBunjwa (Ijomethri) (1 li-awa)

LITIYA

- ◆ Iseshini 2: Kulinganisa (1 li-awa)
- ◆ Iseshini 3: Tinombolo, Ema-ophareshini neBudlelwane (1 li-awa)

KUDLA KWASEMINI

- ◆ Iseshini 4: Tinombolo, Ema-ophareshini neBudlelwane (45 emaminitsi)
- ◆ Iseshini 5: Luhlolo lweThemu 2 (1 li-awa)

Imisebenti yekuvala (15 emaminitsi)

Opening and reflection

1 hour

Here is the *Take back to school task* from Workshop 5.



Take back to school task (Workshop 5)

1. Continue to use the Record of Continuous Assessments in *Activity Guide: Term 2* to assess your learners. Make use of your ongoing observation notes to build up evidence of what learners understand and can do.
2. Identify any concerns you have about individual learner's emerging grasp of maths concepts.
3. Bring copies of rubrics that you used for maths assessment to the next workshop.
4. Bring a completed assessment record for one learner to the next workshop.
5. Use *Activity Guide: Term 2* to plan and implement Weeks 4–7 of the Maths Programme, including creating a maths area with a focus on the concept for each week.
6. Make notes on what worked well, what did not work so well and what you could do differently to improve teaching and learning.



Activity 1

1. In your groups, discuss your progress in implementing Term 2 Weeks 4–7.
 - ◆ What worked well (strengths)?
 - ◆ What did not work well (challenges)?
 - ◆ What could you do to improve teaching and learning in your classroom?

Record the main points of your discussion on flipchart paper to share with the other groups later.

Kuvula nekubuyeketa

1 li-awa

Nawu *Umsebenti wekubuyisela emuva esikolweni* lokuMhlanganosikolo 5.



Umsebenti wekubuyela emuva esikolweni (Umhlanganosikolo 5)

1. Sebentisa Lirekhodi leLuhlolo Loluchubekako leliku *Nkhombandlela Yemsebenti*: *Ithemu 2* kuhlola bafundzi bakho. Sebentisa emanotsi akho ekubukisia lokuchubekako kute wakhe bufakazi balokuvisiswa bafundzi nalabangakhona kukwenta.
2. Tfola nanoma ngukuphi kukhatsateka mayelana nanoma ngukuphi kubamba kwemfundzi ngmicondvo yetibalo angacapheli lokuvelako.
3. Wota nemakhophi emarubhrikhi lasetjentiswe kuhlola tibalo kumhlanganosikolo lolandzelako.
4. Wota nelirekhodi lekuhlola leliphelele lemfundzi munye kumhlanganosikolo lolandzelako.
5. Sebentisa *Inkhombandlela Yemsebenti*: *Ithemu 2* kuhlela nekufezekisa Emaviki 4–7 eLuhlelo Lwetibalo, kufaka ekhatsi kwakha indzawo yetibalo ngekugcila kumcondvo weliviki ngalinye.
6. Bhala emanotsi ngaloko lokuhambe kahle kakhulu, naloko lokungakahambi kahle kakhulu kanye naloko longakwenta ngalokwehlukile kwenta kancono kufundzisa nekufundza.



Umsebenti 1

1. Emacenjini enu, khulumisanani ngenchubekelbili yenu ekufundziseni *Ithemu 2* Emaviki 4–7.
 - ◆ Ngukuphi lokusebente kahle kakhulu (lokukahle)?
 - ◆ Ngukuphi lokungakasebenti kahle kakhulu (tinsayeya)?
 - ◆ Yini longayenta kwenta kancono kufundzisa nekufundza eklasini lakho?

Bhala phasi emaphuzu labalulekile engcogco yakho ephepheni leflipushadi kute kutsi wabelane nalamanye emacembu ekuhambeni kwesikhatsi.

2. Discuss how successful you were in:
 - ◆ recording notes about individual learners after each teacher-guided activity in Weeks 4–7.
 - ◆ completing the Term 2: Record of Continuous Assessments on pages 190–193 of *Activity Guide: Term 2* for each learner.

Record the main points of your discussion on your flipchart paper.

3. Discuss one learner's areas of success and/or difficulty and how you recorded these. Record the main points of your discussion on your flipchart paper.

In the *Take back to school task* in Workshop 5 you were asked to bring copies of the learner assessment rubrics you use as part of the Maths Programme to this workshop. In Activity 2, your group will discuss these rubrics and how assessment information is captured and shared. In Session 5, we will discuss rubrics in more detail.



Activity 2

1. In your groups, share examples of maths rubrics you have used as part of your assessment process.
2. Discuss how you capture the learners' progress on the SA-SAMS system and how this information is shared with parents.

Record the main points of your discussion on flipchart paper to share with the other groups later.

2. Khuluma ngekutsi uphumelele kanjani:
 - ◆ ekubhaleni emanotsi ngebafundzi labatsite ngemuva kwemsebenti loholwa nguthishela ngamunye kuMaviki 4–7.
 - ◆ ekwenteni ucedze Ithemu 2: Lirekhodi Leluhlolo Loluchubekako kumakhasi 190–193 eNkhombandlela Yemsebenti: Ithemu 2 kwemfundzi ngamuye.

Bhala phasi emaphuzu labalulekile engcogco yakho ephepheni lefiphushadi

3. Khuluma ngetindzawo lapho umfundzi aphumelele khona kanye/noma letimatima nekutsi loku ukubhale kanjani. Bhala phasi emaphuzu labalulekile engcogco yakho ephepheni lefiphushadi
-
-
-

KuMsebenti wekubuyela emuva esikolweni kuMhlanganosikolo 5 nicelw kutsi nite nemakhophi emarubhrikhi njengenceny yeLuhlelo Lwetibalo kulomhlanganosikolo. KuMsebenti 2, licembu lakho litawukhulumisana ngamarubhrikhi nekutsi lwatiso lwekuhlola lubhalwe luhindze futsi kwabelwane ngalo kanjani. Kuseshini 5, sitawukhuluma kabanti ngamarubhrikhi.



Umsebenti 2

1. Emacenjini enu, yabelanani ngetibonelo temarubhrikhi etibalo lotisebentisile enhubeni yakho yeluhlolo.
2. Chaza kutsi uyibhala kanjani inchubekelbili yebafundzi enhubeni ye-SA-SAMS nekutsi lolwatiso lwabelwa batali kanjani.

Bhala phasi emaphuzu labalulekile engcogco yakho ephepheni lefiphushadi kute kutsi wabelane nalamanye emacembu ekuhambeni kwesikhatsi.

Video 1

Watch the video of a teacher observing a group of learners completing a maths activity. Listen to her talking about how she observes and records her learners' progress and how she deals with their different levels of competence.

Discuss how you deal with learners who are not achieving success in the structured weekly plans, as well as those learners who exceed expectations.

The level principle: Not all learners progress at the same speed. Some learners need more time to consolidate a skill or concept while others grasp ideas more quickly. The challenge for teachers is to accommodate learners at different levels and to adapt the weekly plan to provide support or extension activities where necessary.





Ividiyo 1

Bukela levidiyo yathishela abukisa licembu lebafundzi benta bacedzela umsebenti wetibalo. Mlalele uve kutsi ubukisia aphindze futsi ayibhale kanjani inchubekelbili yebafundzi bakhe nekutsi ubukana njani nemazinga abo ekwati.

Khuluma ngekutsi ubukana njani nebafundzi labangayitfoli inchubekelbili kumasu lahleliwe eliviki, kanye nalabo bafundzi labasebenta bengce lizinga lelilindzelekile.

Umtsetfomgomo welizinga: Akusibo bonkhe bafundzi labachubekela embili ngesikhatsi lesifananako. Labanye bafundzi badzinga sikhatsi lesinyenti sekuhlanganisa likhono noma umcondvo kantsi labanye babamba imibono masinyane. Insayeya bothishela labanayo kwemukela bafundzi emazingeni lehlukene bese benta kutsi luhlelo lwanjalo ngeliviki luniketa kwesekeleka noma imisebenti leyeluliwe lapho kunesidzingo khona.



Session 1: Space and Shape (Geometry)

1 hour

This workshop focuses on teaching the content of Term 2 Weeks 8–10. The focus of Term 2 Week 8 is Space and Shape (Geometry).

Terms 1–4 Content overview: Space and Shape (Geometry)

Refer to the content overview for Space and Shape (Geometry) on pages 126–131 of the *Concept Guide* and complete Activity 3.



Activity 3

1. What Space and Shape content has already been introduced in Terms 1 and 2?

2. What concepts still need to be covered in Term 2?

Properties of shapes

Learners need many opportunities to compare and sort shapes according to their properties and to describe the similarities and differences of shapes.



Activity 4

The facilitator will give your group a set of shapes.

1. Sort the shapes.
2. Discuss why you sorted them in this way.
3. Sort the shapes in another way.
4. Discuss why you sorted them in this way.

Iseshini 1: Sikhala naBunjwa (Ijomethri)

1 li-awa

LoMhlanganosikolo ugcile ekufundziseni lokucuketfwe kuThemu 2 Emaviki 8–10. Kugcila kweThemu 2 Liviki 8 Sikhala naBunjwa (Ijomethri).

Ithemu1–4 Sibutsetelo Salokucuketfwe: Iseshini 1: Sikhala naBunjwa (Ijomethri)

Fundza sibutsetelo salokucuketfwe seSikhala naBunjwa (Ijomethri) emkhatsini 126–131 eNkhombandlela Yemcondvo bese uyenta ucedza Umsebenti 3.



Umsebenti 3

1. Ngukuphi lokucuketfwe kweSikhala naBunjwa lesekuvele kungenisiwe kuThemu 1 na-2?

2. Nguyiphi imicondvo lesadzinga kufundziswa kuThemu 2?

Emaphrophathi abobunjwa

Bafundzi badzinga ematfuba lamanyenti kucatsanisa nekuhlunga bobunjwa ngekuya ngemaphrophathi abo kanye nekuchaza kufanana nekwehlukana kwabobunjwa.



Umsebenti 4

Umfundzisi utawunika licembu lakho isethi yabobunjwa.

1. Hlunga labobunjwa.
2. Khuluma ngekutsi kungani ubahlunge ngalendlela.
3. Hlunga labobunjwa ngalenyen idlela.
4. Khuluma ngekutsi kungani ubahlunge ngalendlela.

Term 2 Content Summary: Week 8

Refer to Appendix A: Term 2 Weekly Content Summary (Weeks 8–10). Read the content overview for Week 8: Space and Shape (Geometry) on page 20 of *Activity Guide: Term 2*.

The Space and Shape (Geometry) Content Area was also the focus of Term 2 Weeks 3 and 4. In previous workshops, you have discussed the Space and Shape concepts that need to be covered.

The Weekly Content Summary for Week 8 provides an overview of planning for the week: whole class activities, teacher-guided activities and workstation activities done in independent small groups.



Activity 5

1. Take a few minutes to familiarise yourself with the Week 8 content in Appendix A: Term 2 Weekly Content Summary (Weeks 8–10).
2. Match this with the content on pages 138–153 of *Activity Guide: Term 2*. Identify how the whole class, teacher-guided and workstation activities link with the Week 8 content in Appendix A.

Ithemu 2 Sibutsetelo Salokucuketfwe: Liviki 8

Kufundza Sengeto A: Ithemu 2 Sibutsetelo Salokucuketfwe Seliviki (Emaviki 8–10).

Fundza sibutsetelo salokucuketfwe seLiviki 8: Sikhala naBunjwa (Ijomethri) ehasini le-21 leNkhombandlela Yemsebenti: *Ithemu 2*.

Sikhala naBunjwa (Ijomethri) Umkhakha Walokucuketfwe nawo bewungulokunye lokugcilwe kuko kuThemu 2 Emaviki 3 na-4. Kulemihlanganosikolo leyendlulile, ukhulumile ngemcondvo weSikhala naBunjwa lofanele kutsi ufundziswe.

Sibutsetelo Salokucuketfwe seLiviki 8 siniketa sibutsetelo sekuhlelela liviki: imisebenti yelikasi lonkhe, imisebenti leholwa nguthishela kanye nemisebenti yendzawo yekusebentela leyentiwa ngamacembu lamancane latimele.



Umsebenti 5

1. Tsatsa emaminitsi lambalwa utetayete lokucuketfwe kweLiviki 8 Sengeto A: Ithemu 2 Sibutsetelo Salokucuketfwe Seliviki (Emaviki 8–10).
2. Matanisa loku kanye nalokucuketfwe kumakhasi 138–153 eNkhombandlela Yemsebenti: *Ithemu 2*. Khomba kutsi umsebenti welicembu lonkhe, loholwa nguthishela kanye newendzawo yekusebentela ichumana kanjani nalokucuketfwe kweLiviki 8 kuSengeto A.

Session 2: Measurement

1 hour

The focus of Term 2 Week 9 is Measurement.

Terms 1–4 Content overview: Measurement

Refer to the content overview for Measurement on pages 132–135 of the *Concept Guide*.



Activity 6

1. What Measurement concepts are covered in Term 2?

2. What are the differences between the Maths Programme content and the CAPS content?

Directly comparing objects: length

In Term 1 of the Maths Programme the focus of the Measurement Content Area was time (day, night, days of the week, sequencing events, etc.) and the height chart. In Term 2 Week 9, the focus is on using non-standard units to measure and compare length.



Activity 7

1. **Direct comparison**

Choose a partner to stand next to. The rest of your group members should compare your heights.

- ◆ Who is taller? _____
- ◆ Who is shorter? _____
- ◆ Find a third person who is taller than both of these people.

2. **Using non-standard units of measurement**

Choose three objects (e.g. a key, a cellphone, a purse).

- ◆ Use one of these items at a time to measure this *Participant's Workbook*.
- ◆ Report your findings to the group.

IseShini 2: Kulinganisa

1 li-awa

Kugcila kweThemu 2 Liviki 9 kuLinganisa.

Ithemu 1-4 Sibutsetelo Salokucuketfwe: Kulinganisa

Fundza Inkundla Yalokucuketfwe yeKulinganisa kumakhasi 132-135 eNkhombandlela Yemcondvo.



Umsebenti 6

1. Nguyiphi imicondvo yeKulinganisa lefundziswe kuThemu 2?

2. Yini umehluko emkhatsini walokucuketfwe kweLuhlelo Lwetibalo kanye nelokucuketfwe yiCAPS?

Kucatsanisa-ngco ema-objekthi: budzekuphakama

KuThemu 1 weLuhlelo Lwetibalo kugcila kweMkhakha Walokucuketfwe Wetibalo bekusikhatsi (lilanga, buso, emalanga eliviki, kulandzelanisa tenteko) kanye neliShadi lebudzekuphakama. KuThemu 2 Liviki 9, kugcila ekusebentiseni emayunithi langekho ezingeni kulinganisa nekucatsanisa budzekuphakama.



Umsebenti 7

1. **Kucatsanisa-ngco**

Khetsa umlingani lotawuma eceleni kwakhe. Onkhe lawa lamanye emalunga elicembu afanele kutsi acatsanise budzekuphakama bakho.

- ◆ Ngubani lomudze kakhndlwan? _____
- ◆ Ngubani lomfishane kakhndlwan? _____
- ◆ Tfola umuntfu wesitsatfu lomudze kakhndlwan kunalabantfu lababili.

2. **Kusebentisa emayunithi ekulinganisa langekho ezingeni**

Khetsa ema-objekthi lamatsatfu (sib. sikhya, makhalekhukhwini, sipashi).

- ◆ Sebentisa ngakunye kwaletintfo leti sikhatsi ngasinye kulinganisa *Incwadzi Yekusebentela Yemhlanganyeli*.
- ◆ Bikela licembu ngaloko lokutfolile.

Term 2 Content Summary: Week 9

Refer to Appendix A: Term 2 Weekly Content Summary (Weeks 8–10). Read the content overview for Week 9: Measurement on page 20 of *Activity Guide: Term 2*.



Activity 8

1. What are the topics for Week 9?

2. What new knowledge is introduced in this week?

3. What skills from previous weeks are practised?

Read the whole class activities for Week 9 on pages 154–165 of *Activity Guide: Term 2*.



Activity 9

In your groups, discuss how length is taught during the whole class activities in Week 9.

1. What could you do if a learner is not yet able to compare and order objects according to length – long/longer and short/shorter by the end of Week 9?

Ithemu 2 Sibutsetelo Salokucuketfwe: Liviki 9

Fundza Sengeto A: Ithemu 2 Sibutsetelo Salokucuketfwe Seliviki (Emaviki 8–10).

Fundza sibutsetelo salokucuketfwe seLiviki 9: Kulinganisa kulikhasi 21

leNkhombandlela Yemsebenti: Ithemu 2.



Umsebenti 8

1. Ngutiphi tihloko teLiviki 9?

2. Nguluphi lwati lolusha lolungeniswako kuleliviki?

3. Ngumaphi emakhono emaviki lendlulile lafundziswako?

Fundza yonkhe imisebenti yeliklasi lonkhe yeLiviki 9 kumakhasi 154–165

eNkhombandlela Yemsebenti: Umsebenti 2.



Umsebenti 9

Emacenjini enu, khulumani ngekutsi budze bafundziswa ngesikhatsi semisebenti yeliklasi lonkhe kuLiviki 9.

1. Bewungenta njani uma ngabe umfundzi usengakakhoni kucatsanisa nekuhlela ema-objekthi ngekuya ngebudze – kudze/kudze kakhudlwana kanye nakufishane/kufishane kakhudlwana ekupheleni kweLiviki 9?

2. Yini longayenta uma bafundzi benta bacedza umsebenti wendzawo yekufundza ngemphumelelo masinyane kunaloko bekuhleliwe?

2. What could you do if some learners complete a workstation activity successfully quicker than planned?

Session 3: Numbers, Operations and Relationships

1 hour

The focus of Term 2 Week 10 is Numbers, Operations and Relationships.

Terms 1–4 Content overview: Numbers, Operations and Relationships

The Numbers, Operations and Relationships Content Area was also the focus in Weeks 1, 2 and 5 of Term 2, and you discussed the number concepts that need to be covered in previous workshops. Look at the content overview for Numbers, Operations and Relationships on pages 114–123 of the *Concept Guide*.



Activity 10

What number concepts still need to be covered in Term 2?

Problem solving

Teachers need to provide learners with many opportunities to solve problems so that they can apply their maths knowledge and skills in new contexts. All games and activities involve problem solving. Word problems in maths introduce a specific type of problem solving that involves solving addition, subtraction, multiplication and division problems. In Grade R learners solve addition and subtraction problems by counting and using concrete apparatus to help them find a solution. They use grouping and one-to-one sharing to solve multiplication and division problems.

The biggest challenge in presenting word problems to learners, is to ensure that there is appropriate questioning and use of language. When teachers present a word problem, they need to listen carefully to learners' responses and guide them to solve the problem using a strategy that is suitable for their level of understanding.

The posters in the *Poster Book* have been designed to provide learners with a set of pictures that relate to their lives and provide contexts for solving real-life problems.

In Week 10 Day 4 (page 180 of *Activity Guide: Term 2*), Poster 1 is used to encourage learners to solve problems that involve numbers 1–5.

Iseshini 3: Tinombolo, Ema-ophareshini neBudlelwane

1 li-awa

Kugcila kweThemu 2 Liviki 10 Tinombolo, Ema-ophareshini neBudlelwane.

Ithemu 1–4 Sibutsetelo Salokucuketfwe: Tinombolo, Ema-ophareshini neBudlelwane

Umkhakha Walokucuketfwe weTinombolo, Kubala kanye Nebudlelwane nawo bewugcile kuLiviki 1, 2 nele-5 eThemu 2, futsi ukhulume ngemicondvo ledzinga kufundziswa kumihlanganosikolo leyendlulile. Buka lokucuketfwe sibutsetelo seTinombolo, Ema-ophareshini neBudlelwane kumakhasi 114–123 eNkhombandlela Yemcondvo.



Umsebenti 10

Nguyiphi imicondvo lesadzinga kufundziswa kuThemu 2?

Kusombulula tinkinga

Bothishela badzinga kutsi banike bafundzi ematfuba lamanyenti ekusombulula tinkinga kute kutsi bakwati kusebentisa lwati lwabo lwetibalo nemakhono kutimo letinsha. Yonkhe imidlalo nemisebenti ifaka ekhatsi kusombulula tinkinga. Tinkinga tetibalo kutibalo tingenisa luhlobo lolutsite lwekusombulula tibalo letifaka ekhatsi kusombulula kuhlanganisa, kususa, kuphindzaphindza kanye netibalo tekwehlukanisa. KuLibanga R bafundzi basombulula tibalo ngekubala nekusebentisa ema-apharethasi kubasita kutfola sisombululo. Basebentisa kuhlela ngemacembu nekwabelana ngakunye nakunye kusombulula tinkinga tekuphindzaphindza nekwehlukanisa.

Insayeya lenkhulu ekwetfuleni tibalo temagama kubafundzi, kucinisekisa kutsi kunekubutwa kwemibuto nekusetjentiswa kwelulwimi. Uma bothishela betfula inkinga yemagama, badzinga kulalelisa timphendvulo tebafundzi bese babakhombindlela yekusombulula lenkinga basebentisa lisubuciko lelifanele lizinga labo lekuvisisa.

LeNcwadzi Yemaphosta yentelwe kunika bafundzi isethi yetifombe letihambisana netimphilo tabo letiphindze futsi tinikete lokucuketfwe kwekusombulula tinkinga temphilo mbamba.

KuLiviki 10 Lilanga 4 (likhasi 181 leNkhombandlela Yemsebenti: Ithemu 2), Iphosta 1 isetjentiselwa kusombulula tinkinga letifaka ekhatsi tinombolo 1–5.



Activity 11

In your groups, refer to Poster 1. Think of appropriate word problems for each of these skills:

- ◆ comparing
- ◆ matching
- ◆ counting
- ◆ addition
- ◆ subtraction
- ◆ grouping
- ◆ equal sharing.

When you do word-problem activities with your learners, allow them to use their fingers or counters to help them solve the problems.

One of the sections in Numbers, Operations and Relationships is, ‘Solve problems in context’. In your groups, read the content overview for Term 2 for this section on page 120 of the *Concept Guide*. Then complete Activity 12.



Activity 12

Reflect on Activity 11.

1. What concepts and skills are taught and learnt in the topic: Problem-solving techniques?



Umsebenti 11

Emacenjini enu, bukani Iphosta 1. Cabanga ngetinkinga tetibalo letifanele tangalinye lalamakhono:

- ◆ kucatsanisa
 - ◆ kumatanisa
 - ◆ kubala
 - ◆ kuhlanganisa
 - ◆ kususa
 - ◆ kucembula
 - ◆ kwaba ngalokulinganako.
-
-
-
-
-
-
-
-
-
-

Uma wenta imisebenti yetinkinga temagama ukanye nebafundzi bakho, bavumele kutsi basebentise iminwe yabo kubala kubasita kutsi basombulule letinkinga.

Sinye setigaba kuTinombolo, Ema-ophareshini neBudlelwane, ‘Kusombulula tinkinga kungcikitsisimo’. Emacenjini enu, fundza sibutsetelo salokuceketfwe seThemu 2 salesigaba lesikulikhasi 121 leNkhombandlela Yemcondvo. Ngemuva kwaloko yenta ucedzele Umsebenti 12.



Umsebenti 12

Buyeketa Umsebenti 11.

1. Nguyiphi imicondvo nemakhono lafundziswa aphindze futsi afundvwe kulesihloko: Emasu ekusombulula inkinga?
-
-

2. What concepts and skills are taught and learnt in topic: Addition and subtraction?
-
-

Estimation

Learners develop estimation skills and make a ‘sensible’ guess about ‘how many objects’ there are in a collection. During measurement activities, they estimate how heavy or how long something is, or how many cups will fill a jug before they do the actual measuring.



Activity 13

The facilitator will show you two jars. Estimate how many objects are in each jar and respond to her questions.

Learners need to be able to use terms such as: *too few, too many, more than, enough, not enough, nearly, close to, about the same, just under, just over*.

Teachers can plan estimation activities that encourage learners to make sensible guesses about the quantity of a group of objects or the measurement of an object.

Term 2 Content Summary: Week 10

Refer to Appendix A: Term 2 Weekly Content Summary (Weeks 8–10). Read the content overview for Week 10: Numbers, Operations and Relationships on page 20 of *Activity Guide: Term 2*.



Activity 14

1. What are the topics for Week 10?
-
-

2. Nguyiphi imicondvo nemakhono lafundziswa aphindze futsi afundvwe kulesihloko:
Kuhlanganisa nekususa?
-
-

Kulinganisela

Bafundzi batfutfukisa emakhono ekulinganisela baphindze futsi bacombele 'ngalokunengcondvo' mayelana nekutsi 'mangaki ema-objekthi' lakhona kuligcogco. Ngesikhatsi semisebenti yekulinganisa, balinganisele kutsi intfo isindza noma yindze kangakanani, tingaki tinkomishi lettingagcwala ligeke ngembi kwekutsi bente lomsebenti wekulinganisa mbamba.



Umsebenti 13

Umfundzisi utanikhombisa emabhodlela lamabili. Linganisela kutsi mangaki ema-objekthi lasebhodleleni ngalinye bese uphendvula umbuto.

Bafundzi badzinga kutsi bakwati kusebentisa emagama lafana na: *ncane kakhulu, nyenti kakhulu, nyenti kuna, kwanele, akwaneli, cishe, kusondzele kakhulu ku, cishe kuyalingana (fanana), kungaphasana, kungetudlwana*.

Bothishela bangahlela imisebenti yekulinganisela lekhutsata bafundzi kutsi bacombele ngalokulungile mayelana nelinani lencumbi yema-objekthi noma kukalwa kwe-objekthi.

Ithemu 2 Sibutsetelo Salokucuketfwe: Liviki 10

Fundza Sengeto A: Ithemu 2 Sibutsetelo Salokucuketfwe Seliviki (Emaviki 8–10).

Fundza sibutsetelo salokucuketfwe seLiviki 10: Tinombolo, Ema-ophareshini neBudlelwane kulikhasi 21 *leNkhombandlela Yemsebenti*: Ithemu 2.



Umsebenti 14

1. Ngutiphi tihloko teLiviki 10?
-
-

2. What new knowledge is introduced in this week?

3. What skills from previous weeks are practised?

Refer to the estimation activities in Week 10 (*Activity Guide: Term 2*, pages 174 (Day 1), 176 (Day 2) and 178 (Day 3)).

2. Nguluphi lwati lolusha lolungeniswako kuleliviki?

3. Ngumaphi emakhono emaviki lendlulile lafundziswako?

Buka imisebenti yekulinganisela kuLiviki 10 (*Inkhombandlela Yemsebenti: Ithemu 2*, emakhosi 175 (Lusuku 1), 177 (Lusuku 2) kanye ne-179 (Lilanga 3)).

Session 4: Numbers, Operations and Relationships

45 minutes

The Maths Programme focuses on one main Content Area each week. You will have noticed that even though when the weekly Content Area Focus is not ‘number’, the number routines continue every day of each week. The reason for this is that repetition and practice are essential for consolidating the learners’ developing number skills.

The whole class activities for each day of the week always start with three number routines:

- ◆ a song or rhyme
- ◆ oral counting
- ◆ counting objects.

These three number routines are planned to match the number range for each term.



Activity 15

Find the Term 2 daily number routines in *Activity Guide: Term 2* and complete the table. Week 1 has been done for you.

Week	Content Area Focus	Song or rhyme	Oral counting	Counting objects
1	Numbers, Operations and Relationships	A rhyme from Term 1	1–10 5–1	1–5 (birthday chart)
2				
3				

Iseshini 4: Tinombolo, Ema-ophareshini neBudlelwane

45 emaminitsi

Luhlelo Lwetibalo lugcila kuMkhakha Walokucuketfwe lomkhulu liviki ngalinye. Ubonile kutsi nanoma-nje kuGcila Kwemkhakha Walokucuketfwe akusiyo ‘inombolo’, inhlalayenta yetinombolo ichubeka onkhe emalanga eliviki ngalinye. Sizatfu saloku kutsi kuphindzaphindza kanye nekutetayeta kubaluleke kakhulu ekuhlanganiseni emakhono emfundzi ekutfutfukisa emakhono etinombolo.

Imisebenti yeliklasi lonkhe yelilanga ngalinye leliviki ngaso sonkhe sikhatsi icala ngenhlalayenta yetinombolo letintsatfu:

- ◆ ingoma noma silandzelo
- ◆ kubala ngemlomo
- ◆ kubala ema-objekthi.

Lenhlalayenta yetinombolo letintsatfu ihlelelwe kumatana nemkhakha wetinombolo wethemu ngayinye.



Umsebenti 15

Tfola inhlalayenta yetinombolo yemalanga onkhe eThemu 2 kuNkhombandela
Yemsebenti: Ithemu 2 bese ucedzela lelithebuli. Liviki 1 sewentelwe.

Liviki	Kugcila Kwemkhakha Walokucuketfwe	Ingoma noma silandzelo	Kubala ngemlomo	Kubala ema-objekthi
1	Tinombolo, Kubala kanye Nebudlelwane	Silandzelo lesikuThemu 1	1–10 5–1	1–5 (lishadi letinsuku tekutalwa)
2				
3				

4				
5				
6				
7				
8				
9				
10				

Having looked through the number content for Term 2, you will have noticed that the number routines are practised every day of each week regardless of the Content Area Focus and that the progression in number range increases across the term.

4				
5				
6				
7				
8				
9				
10				

Ngemuva kwekubuka lokucuketfwe kwetinombolo kuThemu 2, kufanele kutsi ubonile inhlalayenta yetinombolo yentiwa onkhe malanga eliviki ngaphandle kwekubuka Kugcila Kwemkhakha Walokucuketfwe kutsi inchubekelbili yemkhakha wetinombolo iyakhula kuyo yonkhe ithemu.

Session 5: Term 2 Assessment

1 hour



Video 2

Watch the video of a teacher presenting word problems to a small group of learners.

Observe how each learner solves the problem. Notice how the teacher uses prompts when a learner has difficulty.



Activity 16

Look at the rubric on page 106 of the *Concept Guide*.

In your groups, discuss how you would score each of the learners using this scale. Give reasons for your decisions based on the assessment criteria for each rating code.

Isehini 5: Luhlolo lweThemu 2

1 li-awa



Ividiyo 2

Bukela ividiyo yathishela etfula tinkinga temagama ecenjini lelincane lebafundzi.

Bukisisa kutsi umfundzi ngamunye kutsi inkinga uysombulula kanjani. Caphela kutsi lothishela ukusebentisa kanjani kukhutsata uma ngabe umfundzi unebulukhuni.



Umsebenti 16

Buka irubhrikhi lekulikhasi 107 le *Nkhombandela Yemcondvo*.

Emacenjini enu, khulumani ngekutsi umfundzi ngamunye nitamunika kanjani emamaki nisebentisa lesikali lesiniketa tizatfu tetincumo takho ngekumisela kundlela yekuhlola yelizinga lekuniketa limaki ngalinye.

Closing activities

15 minutes



Activity 17

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 any questions or comments to share with the group.



Take back to school task

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 your evaluation to the next workshop.

Evaluation

Complete the Evaluation Form.

Imisebenti yekuvala

15 emaminitsi



Umsebenti 17

Lubuyeketo lwemhlanganosikolo: Tsatsa emaminitsi lambalwa ubuyekete lilanga lakho. Fundza yonkhe *Incwadzi Yekusebentela Yemhlanganyeli* kutikhumbuta loko lokufundziwe. Bhala phasi nanoma nguyiphi imibuto noma tiphakamiso kwabelana nelicembu.



Umsebenti wekubuyela emuva esikolweni

1. *Inkhombandlela Yemsebenti: Ithemu 2* kuhlela nekufezekisa Emaviki 8–10 eLuhlelo Lwetibalo.
2. Bhala silinganiso saloko lokusebente kahle kakhulu naloko lokungakasebenti kahle kakhulu nekutsi lotawuyenta ngalokwehlukile kwenta kancono kufundzisa nekufundza.
3. Wota nekulinganisa kwakho kumhlanganosikolo lolandzelako.

Kuhlolisisa

Gwalisa leLifomu Lekuhlolisisa.

APPENDIX A: TERM 2 WEEKLY CONTENT SUMMARY (WEEKS 8-10)

Term 2: Activity Plan

Week 8				
CONTENT AREA: SPACE AND SHAPE (GEOMETRY)				
TOPIC: Properties of shapes – compare same and different, sort according to properties; position; orientation and views				
INTRODUCE NEW KNOWLEDGE: Follow direction and midline crossing				
PRACTISE: Oral counting 1-20, counting backwards from 7, sequencing numbers 1-5, counting objects 1-7, reinforce number concept 1-5, what number comes before/after, practise using all shapes		Teacher-guided activity	Workstation activities	
Whole class activities			Activity 1	Sorting activity – using cut-out shapes.
Day 1	Forwards/backwards.	Counting – show me 1-3, 5-7 counters.	Activity 2	Make shapes using playdough and make a copy.
Day 2	Reinforce all shapes (I spy ...).	Working with all taught shapes.	Activity 3	Masking tape shapes – learners follow shapes using blocks.
Day 3	Shape game.	Midline crossing. Position – direction.	Activity 4	Match shapes using shape cards.
Day 4	What can I do: Lost my ... (shape).	Forwards/backwards.		
Day 5	Obstacle course (requires a big space/outdoors). Midline crossing.			
Week 9				
CONTENT AREA: MEASUREMENT				
TOPIC: Length – compare and order objects using appropriate vocabulary to describe length				
INTRODUCE NEW KNOWLEDGE: Measuring and comparing length (long/short, longer/shorter, longest/shortest)				
PRACTISE: Oral counting 1-20, counting backwards from 7, counting objects 1-7, estimation 1-7, tall/short				
Whole class activities		Teacher-guided activity	Workstation activities	
Day 1	Longer/shorter (height).	Longer than/shorter than.	Activity 1	Shorter/longer (pre-cut strips of different length).
Day 2	Comparing lengths of ribbons.	Taller than/shorter than.	Activity 2	Wiggly worms (to make a poster shortest to longest).
Day 3	Sorting objects by length (coloured paper strips).	Measurement with everyday objects.	Activity 3	Measure blocks using string.
Day 4	Height chart comparison (from Term 1).		Activity 4	Playdough and lined paper (different lengths).
Day 5	Height chart comparison (taller/shorter than you).			

SENGETO A: ITHEMU 2 SIBUTSETELO SALOKUCUKETFWE SELIVIKI (EMAVIKI 8-10)

Ithemu 2: Luhlelolisu Lwemsebenti

Liviki 8				
UMKHAKHA WALOKUCUKETFWE: SIKHALA naBUNJWA (IJOMETHRI) SIHLOKO: Emaphrophathi abobunjwa - catsanisa kuyafanana (kuyalingana) nakwehlukile (akufanani), hlunga ngekuya ngemaphrophathi; sikhundla; kuma nekubukeka YETFULA LWATI LOLUSHA: Kulandzela indlela nekweca umugcamkhatsini TETAYETE: kubala ngemlomo 1-20, kubala uye emuva ucale ku-7, kulandzelanisa tinombolo 1-5, kubala ema-objekthi 1-7, kucizelela umcondvo wetinombolo 1-5, nguyiphi inombolo leta ngembi/ngemuva, tetayete kusebentisa bobunjwa				
Imisebenti yeliklasi lonkhe	Umsebenti loholwa nguthishela	Umsebenti 1	Umsebenti 2	Umsebenti 3
Lilanga 1	Embili/emuva	Kubala – ngikhombise tibali1-3, 5-7.	Umsebenti 1	Umsebenti wekuhlunga – usebentisa bobunjwa labasikwe bakhishwa.
Lilanga 2	Gcizelela bonkhe bobunjwa (Ngiyatjopola ...)	Kusebenta ngabo bonkhe bobunjwa labafundzisiwe.	Umsebenti 2	Yakha bobunjwa usebentisa inhlama yekudlala bese wenta ikhophi.
Lilanga 3	Umdlalo wabobunjwa.	Kweca umugcamkhatsi. Sikhundla – indlela.	Umsebenti 3	Bobunjwa bemaskingi theyiphi – bafundzi balandzela bobunjwa basebentisa emabhlokhi.
Lilanga 4	Yini lengingayenta: Ngilahlekelwe ... (bunjwa).	Embili/emuva.	Umsebenti 4	Matanisa bobunjwa usebentisa emakhadi abobunjwa.
Lilanga 5	Sihibe (kudzingeka indzawo lenkhulu/ngaphandle). Kweca umugcamkhatsini.			

Liviki 9				
UMKHAKHA WALOKUCUKETFWE: KULINGANISA SIHLOKO: Budze – catsanisa uphindze uhlele ema-objekthi usebentisa silulumagama lesifanele kuchaza budze YETFULA LWATI LOLUSHA: Kulinganisa nekucatsanisa budze (kudze/kufishane, kudze kakhudlwana/kufishane kakhudlwana, kudze kakhulu/kufishane kakhulu) TETAYETE: Kubala ngemlomo 1-20, kubala uye emuva kusuka ku-7, kubala ema-objekthi 1-7, kulinganisela 1-7, phakeme/fishane				
Imisebenti yeliklasi lonkhe	Umsebenti loholwa nguthishela	Umsebenti 1	Umsebenti 2	Umsebenti 3
Lilanga 1	Kudze kakhudlwana/kufishane kakhudlwana (budzekuphakama).	Kudze kuna/kufishane kuna. kudze ngalokuphakeme kuna/fishane kuna.	Umsebenti 1	Fishane kakhudlwana/kudze kakhudlwana (imicu lesikwe phambilini yebudze lobehlukene).
Lilanga 2	Catsanisa budze bemaribhoni.	Kulinganisa ngema-objekthi emalanga onkhe.	Umsebenti 2	Tibungu letintikitako (kwakha iphosta lemfishane kakhulu ibe ngulendze kakhulu).
Lilanga 3	Kuhlunga ema-objekthi ngebudze (imicu yeliphepha lelinembala).		Umsebenti 3	Kala emabhlokhi usebentisa intsambo.
Lilanga 4	Kucatsaniswa kweLishadi lebudze (leThemu 1).		Umsebenti 4	Inhlama yekudlala neliphepha lelentiwe umugca (budze lobehlukene).
Lilanga 5	Kucatsanisa kwelishadi lebudzekuphakama (kudze kuna/kufishane kuna).			

Week 10				
CONTENT AREA: NUMBERS, OPERATIONS AND RELATIONSHIPS				
TOPIC: Describe, compare and order numbers; addition and subtraction (oral); problem solving INTRODUCE NEW KNOWLEDGE: Breaking down and building up numbers, problem-solving techniques, addition and subtraction using concrete objects, numbers in familiar settings (address and phone number) PRACTISE: Oral counting 1-20, counting backwards from 7, sequencing numbers 1-5, counting objects 1-7, reinforce number concept 1-5, what number comes before/after				
Whole class activities		Teacher-guided activity	Workstation activities	
Day 1	Ordering, using numbers 1-5. Dot cards.	Ordering numbers and dot cards (1-5). Fewer/more/less than.	Activity 1	Write numbers 1-5 and draw dots using white board markers and plastic sheets. Count sticks to match.
Day 2	Addition using concrete objects. Musical chairs.	Decomposition of numbers. Phone numbers and addresses.	Activity 2	Tracing shapes according to given number. Feely cups with number of objects – feel amount and show number symbol.
Day 3	Subtraction using concrete objects.		Activity 3	Number matching pictures.
Day 4	Problem solving. Poster 1.		Activity 4	
Day 5	Memory game: Address and phone number. Game: Making groups of 1-5 learners.			

Liviki 10

UMKHAKHA WALOKUCUKETFWE: TINOMBOLO, EMA-OPHARESHINI NEBUDDELWANE

SIHLOKO: Chaza, catsanisa bese uhlela tinombolo; kuhlanganisa nekususa (ngemlomo); kusombulula inkinga

YETFULA LWATISO LOLUSHA: Kubhidlita nekwakha tinombolo, emasu ekusombulula tinkinga, kuhlanganisa nekususa usebentisa ema-objekthi laphatsekako, tinombolo etimeni letetayelekile (likheli netinombolo telucingo)

KUTETAYETA: Kubala ngemlomo 1–20, kubala uye emuva kusuka ku-7, sekulandzelanisa tinombolo 1–5, kubala ema-objekthi 1–7, kugcizelela umcondvo wetinombolo 1–5, nguyiphi inombolo leta ngembi/ngemuva

Imisebenti yeliklasi lonkhe	Umsebenti loholwa nguthishela	Imisebenti yendzawo yekusebentela		
Lilanga 1 Kuhlelembisa, usebentisa tinombolo 1–5. Emakhadi emacashati.	Kuhlelembisa tinombolo emakhadi etinombolo (1–5).	Umsebenti 1	Bhala tinombolo 1–5 bese udvweba emacashati usebentisa tikhombisi tebhodi lemhlophe nemakhasi eplastiki. Bala tintsi kumatanisa.	
Lilanga 2 Kuhlanganisa usebentisa ema-objekthi laphatsekako. Titulo temculo.	Ncane kakhudlwana/nyenti/ncane kuna. Kubhidlita tinombolo. Tinombolo tetincingo netemakheli.	Umsebenti 2	Kuthreyisa bobunjwa ngekuya kwenombolo loyinikiwe.	
Lilanga 3 Kususa usebentisa ema-objekthi laphatsekako.		Umsebenti 3	Tinkomishi tefili letinetinombolo tema-objekthi – vani linani bese ukhombisa luhawu lwenombolo.	
Lilanga 4 Kusombulula tinkinga. Iphosta 1.		Umsebenti 4	Titfombe letimatana netinombolo.	
Lilanga 5 Umdlalo wekukhumbula: Likheli nenombolo yelucingo. Umdlalo: Kwakha emacembu ebafundzi 1–5.				

Workshop 6 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 6

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?
