Luhlelo Lwekwenta Kancono
Tibalo TeLibanga R
Grade R Mathematics
Improvement Programme

Umhlanganosikolo 3 ● Workshop 3
Inkhombandlela Yemfundzisi ● Facilitator's Guide

Umklamo Wetibalo TeLibanga R Nekwenta Kancono Lulwimi lisu lelasungulwa **Litiko Letemfundvo laseGauteng (Gauteng Department of Education)** kanye nemlingani walo lomkhulu i-**Gauteng Education Development Trust**.

Lokwentiwa nekukhicitwa kwetinsita tekucecesha netaseklasini kweTibalo TeLibanga R neMklamo Wekwenta Kancono Lulwimi kwenteka ngenca yekwesekelwa ngalokunemusa ngetimali letibuya ku-**United States Agency for International Development** kanye ne-**Zenex Foundation.**

Lomklamo Wetibalo TeLibanga R Nekwenta Kancono Lulwimi uphetfwe yi-**JET Education Services** ikanye ne-**UCT's Schools Development Unit** ne-**Wordworks** njengebalingani betebuchwepheshe.

Le-**Schools Development Unit** (SDU) e-**University of Cape Town** (UCT) ingumlingani wetebuchwepheshe wetibalo kuloMklamo Wetibalo TeLibanga R Nekwenta Kancono Lulwimi. Le-SDU iyiyunithi lengekhatsi e-UCT School of Education lebukene nekutfutfukiswa kwabothishela ngekwebungcweti kuTibalo, Isayensi, Kufundza nekubhala/Lulwimi Nemakhono Ekuphila kusuka kuLibanga R kuya kuLibanga le-12. Le-SDU iniketa ticu tebuthishela kanye netifundvo letifishane letivunywe yi-UCT, umsebenti lophatselene nesikolo, kwentiwa kwemethiriyeli nekucwaninga kusekela kufundzisa nekufundza kuto tonkhe tingcikitsisimo taseNingizimu Afrika.

EMAVI EKUBONGA
Kubongwa ngalokukhetsekile ku:
- Tikhulu Tekharikhulamu Yelitiko Letemfundvo laseGauteng, teMfundvo Yabothishela neteBacondzisi Bemfundvo Lekhetsekile ngeligalelo labo kulokuguculwa kwemethiriyeli yetfu.
- Tiphatsimandla te-Western Cape Education Department (WCED) nabothishela ngeligalelo labo ekuphumeleliseni kusetjentiswa kwale-Grade R Mathematics Programme (R-Maths) eNshonalanga Kapa emkhatsini wa-2016 na-2019.
- Licembu lelibhala i-R-Maths: Basebenti nabonjingalwati be-SDU, netiphatsimandla te-WCED.

Kufaka luhlelo kungcikitsisimo nekuphatsa: Cally Kuhne naTholisa Matheza
Kuphatsa umklamo wekuhumusha nekushicilela: Arabella Koopman
Kuchumanisa tekuhumusha (tilwimi tesiNguni): Pumeza Ngobozana
Kuhumusha Siswati: Bukiwe Malangwane
Kuhlela nekulungisa emaphutsa eSiswati: Thobile Mbatha
Kudvweba imidvwebo: Jiggs Snaddon-Wood

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Overview

Purpose

This is the third 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 assist teachers to implement the Maths Programme in their classrooms. Participants will strengthen their understanding of the CAPS Content Areas covered in Weeks 6–9 of Term 1 and practise skills in mediating maths learning.

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 1 Weeks 3–5
♦   To apply the Maths Programme principles in weekly planning
♦   To explore strategies to support teaching maths in Grade R
♦   To engage with the Maths Programme content of Term 1 Weeks 6–9 (Patterns, Functions and Algebra; Space and Shape (Geometry); Measurement; Numbers, Operations and Relationships)
♦   To start to understand how learners' different interests and ability levels inform learning and teaching

Workshop content

♦   Opening and reflection   (1 hour)
♦   Session 1: Patterns, Functions and Algebra   (1 hour)
TEA
♦   Session 2: Space and Shape (Geometry)   (1 hour)
♦   Session 3: Measurement   (1 hour)
LUNCH
♦   Session 4: Numbers, Operations and Relationships   (1 hour)
♦   Session 5: Planning for teaching   (1 hour)

Sibutsetelo

Inhloso

Lona ngumhlanganosikolo wesitsatfu walelelishumi 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. Lomhlanganosikolo. Bahlanganyeli batawugcizelela kuvisisa kwabo
Umkhakha Walokucuketfwe ku-CAPS lokufundvwe kuMaviki 6–9 eThemu 1 baphindze
batetayete emakhono ekungenelela nakufundvwa tibalo.

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

Imiphumela yekufundza

♦   Kubuyeketa kufezekiswa kweThemu 1 Emaviki 3–5
♦   Kusebentisa imitsetfosimiso yeLuhlelo Lwetibalo ekuhleleni kwangeliviki
♦   Kwehlwaya emasubuciko kwesekela kufundzisa tibalo kuLibanga R
♦   Kutibandzakanya kulokucuketfwe Luhlelo Lwetibalo kweThemu 1 Emaviki 6–9
     (Emaphethini, Emafangshini ne-Aljebhra; Sikhala naBunjwa (Ijomethri);
     Kulinganisa; Tinombolo, Ema-ophareshini neBudlelwane)
♦   Kucala kuvisisa kutsi tintfo letifunwa bafundzi letehlukene nemazinga ekukhona
     kwenta lokutsite esekele kufundza nekufundzisa

Lokucuketfwe kwemhlanganosikolo

♦   Kuvula nekubuyeketa   (1 li-awa)
♦   Iseshini 1: Emaphethini, Emafangshini ne-Aljebhra   (1 li-awa)
LITIYA
♦   Iseshini 2: Sikhala naBunjwa (Ijomethri)   (1 li-awa)
♦   Iseshini 3: Kulinganisa   (1 li-awa)
KUDLA KWASEMINI
♦   Iseshini 4: Tinombolo, Ema-ophareshini neBudlelwane   (1 li-awa)
♦   Iseshini 5: Kuhlelela kufundzisa   (1 li-awa)

Preparation

- PPT welcome and outcomes
- Read:

Concept Guide, pages 114–137

Activity Guide: Term 1, pages 18–21

Appendix A: Term 1 Weekly Content Summary

- Set out a Maths Programme *Resource Kit* on each group's table.

Materials

- Flipchart paper, kokis
- A *Resource Kit* for each group
- A *Poster Book* for each group
- *Resource Kit*: attribute blocks

Kulungiselela

- PPT kwemukela nemiphumela
- Fundza:

Inkhombandlela Yemcondvo, emakhasi 114–137

Inkhombandlela Yemsebenti: Ithemu 1, emakhasi 18–21

Sengeto A: Ithemu 1 Sibutsetelo Salokucuketfwe Seliviki

- Yenta Luhlelo Lwetibalo *Ikhithi Yetinsita* etafuleni lelicembu ngalinye.

Emamethiriyeli

- Liphepha lefliphushadi, emakhokhi
- *Ikhithi Yetinsita* yelicembu ngalinye
- *Incwadzi Yemaphosta* yelicembu ngalinye
- *Ikhithi Yetinsita*: emabhlokhi e-athribhuyithi

Opening and reflection

1 hour

Reflect on the implementation of the Maths Programme in your daily programme and complete the following activity in your group.

Activity 1

1. Discuss your progress in implementing Weeks 3–5 and the *Take back to school* task from Workshop 2.
2. Share your photograph of the Space and Shape (Geometry) focus in the maths area.
3. How did you record your observations of each learner during the teacher-guided activity?
4. Which teaching principles are you more aware of in your classroom?

Video 1

Activity Guide: Term 1, Week 3, Day 2 #1, 2 and 3 (page 56)

Watch the video of how the teacher uses a rhyme to practise counting and solving word problems.

Discuss how you managed this and other lessons that incorporated rhymes into counting activities.

_____
_____
_____
_____

Kuvula nekubuyeketa

Buyeketa kufezekiswa kweLuhlelo Lwetibalo kuluhlelo lwemalanga onkhe lwakho bese uyenta ucedzela lomsebenti lolandzelako ecenjini lakho.

Umsebenti 1

1. Khulumisanani ngenchubekelembili eKufezekiseni Emaviki 3–5 nemsebenti loniketiwe weKubuyisela emuva esikolweni lokuMhlanganosikolo 2.

2. Yabelana sitfombe sakho sekugcila kweSikhala naBunjwa (Ijomethri) kundzawo yetibalo.

3. Ukubhale kanjani loko lokubukisisile kwemfundzi ngamunye ngesikhatsi semsebenti loholwa nguthishela?

4. Nguyiphi imitsetfomgomo loyicaphela kakhulu eklasini lakho?

Ividiyo 1

Bukela levidiyo lemayelana nekutsi thishela usisebentisa kanjani silandzelo kutetayeta kubala nekusombulula tinkinga temagama.

Khulumisanani ngekutsi ukulawula kanjani loku naletinye tifundvo letifake tilandzelo emisebentini yekubala.

_____

_____

_____

_____

Session 1: Patterns, Functions and Algebra

1 hour

This workshop focuses on teaching the following Maths Programme content: Term 1 Weeks 6–9. This session focuses on Term 1 Week 6: Patterns, Functions and Algebra.

Term 1 Content overview: Patterns, Functions and Algebra

Refer to the Patterns, Functions and Algebra Content Area on page 124 of the *Concept Guide*.

Activity 2

In your group, discuss:

1. What concepts are covered in Term 1?

_____
_____
_____

2. What are the differences between the content and the content from CAPS?

_____
_____
_____

Recognise the repeat in patterns.

Introduce language, e.g. What comes next? What comes before?

Create own pattern using physical objects, drawings, geometric patterns.

Explain own pattern (repeating rule).

Iseshini 1: Emaphethini, Emafangshini ne-Aljebhra

1 li-awa

Lomhlanganosikolo ugcile ekufundziseni naku lokulandzelako lokucuketfwe Luhlelo Lwetibalo: Ithemu 1 Emaviki 6–9. Leseshini igcile kuThemu 1 Liviki 6: Emaphethini, Emafangshini ne-Aljebhra.

Ithemu1 Sibutsetelo Salokucuketfwe: Emaphethini, Emafangshini ne-Aljebhra

Fundza Umkhakha Walokucuketfwe weMaphethini, Emafangshini ne-Aljebhra kulikhasi 125 *Inkhombandlela Yemcondvo*.

Umsebenti 2

Ecenjini lakho, khulumisanani:

1. Nguyiphi imicondvo lefundziswe kuThemu 1?

_____
_____
_____

2. Nguwuphi umehluko losemkhatsini walokucuketfwe kanye nalokucuketfwe kwe-CAPS?

_____
_____
_____

Kubona kuphindzela lokukumaphethini.

Yetfula lulwimi, sib. Yini lelandzelako? Yini leta kucala?

Takhele yakho iphethini usebentisa ema-objekthi laphatsekako, imidvwebo, emaphethini ejomethri.

Chaza emaphethini akho (umtsetfo wekuphindza).

Understanding patterns

Facilitator's notes

♦ PPT: Refer groups to Poster 7 in the *Poster Book* and have them complete **Activity 3**.

♦ PPT: Give a definition of a pattern and a sequence, using the information below. Demonstrate these explanations.

*A **pattern** describes the regular sequence of objects, pictures, movements, actions or events that are repeated in a predictable way.*

*A **sequence** is the particular order in which objects, pictures, movements, actions or events follow each other.*

Developing an understanding of patterns is an important part of maths. Patterns are all around us and children encounter lots of patterns in their daily lives at home and at school.

Think about your own understanding of the Content Area: Patterns, Functions and Algebra and complete Activity 3 with your group.

Activity 3

In your group, discuss:

1. What kinds of patterns might Grade R learners observe in their daily lives?

_____

_____

Patterns in clothes, on buildings, in nature (e.g. flower, beehive).

Facilitator's notes

♦ PPT: Pictures of patterns around us in our natural and built environment.

♦ Discuss how a sequence of items can be extended but that this won't necessarily create a pattern.

♦ Look at examples of where a sequence is repeated to create a pattern.

2. Look at Poster 7 in the *Poster Book*.

♦ What patterns do you see?

_____

_____

♦ What is the pattern?

_____

_____

Identify the 'repeat' part of the pattern.

Elements are repeated (unless it is an irregular pattern, e.g. bark on a tree, random patterns on paper or fabric).

Kuvisisa emaphethini

Kutfutfukisa kuvisisa emaphethini kuyincenye lenkhulu yetibalo. Emaphethini lasitungeletile futsi bantfwana bahlangana nemaphethini lamanyenti etimphilweni tabo temalanga onkhe ekhaya nasesikolweni.

Cabanga ngekuvisisa kwakho Inkhundla Yalokucuketfwe: Emaphethini, Emafangshini ne-Aljebhra bese uyenta ucedze Umsebenti 3 nelicembu lakho.

Umsebenti 3

Ecenjini lakho, coca:

1. Ngutiphi tinhlobo temaphethini letingabukisiswa kubafundzi beLibanga R etimphilweni tabo temalanga onkhe?

_____

_____

Emaphethini etimphahleni, etakhiweni, emvelweni (sib. imbali, imphalu).

2. Buka Iphosta 7 ku*Ncwadzi Yemaphosta*.

♦ Ngumaphi emaphethini lowabonako?

_____

_____

♦ Nguyiphi lephethini?

_____

_____

Khomba incenye 'yekuphindzeka' kwephethini.

Tintfo (ema-elementi) tiyaphindzeka (ngaphandle uma ngabe ngubunjwa longalandzeli iphethini letsite, sib. ligcolo lesihlahla, emaphethini langakahleleki ephepheni noma endvwangwini).

♦   Can you repeat the pattern? Explain.

_____

_____

A **pattern** describes the regular sequence of objects, pictures, movements, actions or events that are repeated in a predictable way.

A **sequence** is the particular order in which objects, pictures, movements, actions or events follow each other.

Identifying patterns

Facilitator's notes
♦   Explain that in a regular pattern we can see how the elements in a pattern are repeated, and we can predict the order or sequence that the pattern will follow.
♦   PPT: Circles and squares repeated to form a pattern.
♦   Refer participants to the circle and square patterns in the *Participant's Workbook*. Use the questions that follow to demonstrate how we can see that the circle and square are repeated and use this to predict what the next shape will be.
♦   In the pattern below we can see that the circle and square are repeated, and we can predict that the next shape in the sequence will be a circle, followed by a square and so on.

In a regular pattern, we can see how the elements in the sequence are repeated. We can also predict the order or sequence of the elements and how they will be repeated to create a pattern. In the pattern below we can see that the circle and square are repeated and we can predict what the next shape in the sequence will be.

Activity 4

1. Which shape is first?

_____

2. Which shape is next?

_____

3. What shape do you think will come after the last square?

_____

4. How would you extend the pattern?

_____

Repeating patterns are made up of a repeated sequence of elements, e.g. shapes, colours, sounds, objects, movements.

♦   Ungayiphindza lephethini? Chaza.

_____

_____

Iphethini kulandzelana kwema-objekthi, titfombe, iminyakato noma tehlakalo letiphindzekako ngendlela lengalindzeleka.

Kulandzelana (isikhwensi) kuhleleka lokutsite lapho ema-objekthi, iminyakato noma tehlakalo tilandzelana.

Kukhomba emaphethini

Kuphethini lehlelekile, siyabona kutsi lama-elementi aphindvwe kanjani kulokulandzelanisa. Singaphindze futsi sicombele kuhleleka nekulandzelana kwema-elementi nekutsi atawuphindvwa kanjani kute kwakheke iphethini. Kulephethini lengentasi siyabona kutsi indingilizi nesikwele kuphindziwe futsi siyakhona kucombela kutsi lobunjwa lolandzelako kulokulandzelana utawuba yini.

Umsebenti 4

1. Ngumuphi bunjwa lowekucala?

_____

2. Ngumuphi bunjwa lolandzelako?

_____

3. Ngumuphi bunjwa locabanga kutsi utawulandzela lesikwele sekugcina?

_____

4. Yini longayenta kukhulisa lephethini?

_____

Emaphethini laphindzekako akhiwa kulandzelana kwema-elementi laphindziwe, sib. bobunjwa, imibala, imisindvo, ema-objekthi, kuhamba.

♦ PPT: Display the following sequence of attribute blocks:
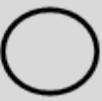
yellow   red   blue   yellow

♦ Ask participants to look at the pattern and to use the attribute blocks on their tables to copy the sequence. Groups then complete **Activity 5**.

In the next activity, the facilitator will show you a sequence of shapes. You will use the attribute blocks on your table to copy this sequence and discuss how to extend this to create a pattern.

Activity 5

1. What is the pattern?

_____

_____

2. What is the repeating part of the sequence?

_____

_____

Facilitator's notes

♦ The point of this activity is to identify the repeating part of the sequence, i.e. the pattern. Does the pattern begin with the yellow square and end with the blue circle? Or does the pattern begin with the yellow square and end with the yellow square?

♦ Explain that learners need to be able to identify the pattern before they can extend or create their own pattern.

♦ Emphasise that teachers should always repeat the pattern at least twice before asking learners to extend it, for example:
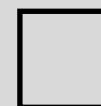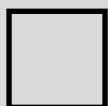
♦ After these activities highlight the importance of introducing learners to patterns that have only one attribute that differs, e.g. shape, and providing them with a long enough repeat sequence (e.g. three repeats) so that they can work out the pattern.

♦ Ask participants for examples of the kinds of patterns that families might find in their own homes and communities (**context principle**).

♦ Reflect on how a learner's experience of everyday patterns is the starting point for understanding the concept of pattern (**level principle**).

♦   PPT: Khombisa lokulandzelanisa lokulandzelako kwemabhlokhi e-athribhuyithi:

mtfubi   bovu   luhlata   mtfubi
                          sasibhakabhaka

♦   Cela bahlanganyeli kutsi babuke lamaphethini nekutsi basebentise emabhlokhi e-athribhuyithi ematafuleni abo kukhombisa kute bakope lokulandzelanisa. Emacembu bese uyenta ucedzela **Umsebenti 5.**

Kulomsebenti lolandzelako, umfundzisi utawukhombisa kulandzelanisa kwabobunjwa. Utawusebentisa emabhlokhi e-athribhuyithi lasetafuleni lakho kukopa lokulandzelanisa bese ukhuluma ngekutsi loku kungakhuliswa kanjani kute kwakhe iphethini.

 Umsebenti 5

1.   Nguyiphi iphethini?

_____

_____

2.   Nguyiphi incenye yekulandzelanisa lephindzekako?

_____

_____

Emanotsi emfundzisi

♦   Inhloso yalomsebenti kukhomba incenye yekulandzelanisa lephindzako, kk. iphethini. Lephethini icala ngesikwele lesimtfubi bese igcina ngendingilizi leluhlata sasibhakabhaka? Noma lephethini icala ngesikwele lesimtfubi bese igcina ngesikwele lesimtfubi?

♦   Chaza kutsi bafundzi badzinga kukhona kukhomba iphethini ngembi kwekutsi bakhulise noma batakhele yabo iphethini.

♦   Gcizelela kutsi bothishela bafanele kutsi ngaso sonkhe sikhatsi baphindze iphethini lokungenani kabili ngembi kwekutsi bacele bafundzi kutsi bayikhulise, sibonelo:
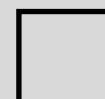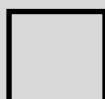
♦   Ngemuva kwalemisebenti gcamisa kubaluleka kwekwetfula bafundzi kumaphethini lane-athribhuyithi yinye kuphela, sib. bunjwa, bese ubanika kulandzelanisa lokuphindzako lokudze ngalokwanele.

♦   Cela bahlanganyeli bakunike tibonelo tetinhlobo temaphethini imindeni lengatitfola emakhaya nasemimangweni yawo (**umtsetfosimiso wengcikitsisimo**).

♦   Buyeketa kutsi kuhlangana nemaphethini kwemalanga onkhe kwebafundzi kusicalo kanjani sekuvisisa umcondvo wemaphethini (**umtsetfosimiso welizinga**).

Introduce learners to patterns that start with only one attribute that differs, e.g. shape, and provide enough items in the sequence so that learners can work out what the pattern is (the repeating part in the sequence).

It is important for teachers to provide a range of opportunities for learners to identify, copy and create different kinds of patterns using sounds, actions, objects and pictures.

📹 **Video 2**

Watch the video of the teacher setting up activities that provide opportunities for learners to create and discuss patterns.

Notice how the teacher guides the learners through questions and prompts to create a pattern. Write down the vocabulary that she and the learners using during these activities.

_____

_____

_____

_____

Refer to pages 160–173 of the *Concept Guide* to read more about teaching Patterns, Functions and Algebra in Grade R. You will also find a list of appropriate questions and vocabulary for this Content Area.

The **level principle** says that learners are at different starting points in Grade R. Each learner's prior knowledge is the starting point for what they will learn. They can use what they know already to learn new maths concepts and skills.

Yetfula bafundzi kumaphethini lacala nge-athribhuyithi yinye kuphela leyehlukile sib. bunjwa, futsi ubanike tintfo letenele kulokulandzelanisa kute kutsi bafundzi batfole kutsi yini lephethini (lencenye lephindzako kulokulandzelanisa).

Kubalulekile kutsi bothishela banike bafundzi ematfuba lamanyenti ekukhomba, kukopa kanye nekucamba bakhe emaphethini lamanyenti lehlukene basebentisa imisindvo, tento, ema-objekthi kanye netitfombe.

▸ Ividiyo 2

Bukela ividiyo yathishela enta imisebenti lenika bafundzi ematfuba ekucamba bakhe baphindze futsi bakhulume ngemaphethini.

Caphela kutsi thishela ubakhombindlela kanjani bafundzi ngekubabuta imibuto aphindze futsi abagcugcutele kutsi bakhe iphethini. Bhala phasi silulumagama lesisetjentiswe nguye kanye nebafundzi ngesikhatsi benta lomsebenti.

_____

_____

_____

_____

Fundza emakhasi 160–173 e*Nkhombandlela Yemcondvo* kute ufundze kabanti mayelana nekufundzisa Emaphethini, Emafangshini ne-Aljebhra kuLibanga R. Utawuphindze futsi utfole luhlu lwemibuto lefanele kanye nesilulumagama saleNkhundla Yekufundza.

Umtsetfosimiso welizinga utsi bafundzi baseticakwini tekucala letehlukene kuLibanga R. Lwati lwangaphambilini lwemfundzi ngamunye sicaku sekucala saloko labatawukufundza. Bangasebentisa loko lesebavele bakwati bafundze imicondvo nemakhono etibalo lamasha.

Session 2: Space and Shape (Geometry) 1 hour

The focus of Term 1 Week 7 is Space and Shape (Geometry). In Workshop 2, we discussed 3-dimensional objects and 2-dimensional shapes and the content of Weeks 3–5 to be implemented in the classroom.

Term 1 Content overview: Space and Shape (Geometry)

Activity 6

Refer to the Space and Shape (Geometry) Content Area on pages 126–131 of the *Concept Guide*. You will see that circles, squares and triangles are introduced in CAPS in Term 1 and rectangles are introduced in Term 4. The Maths Programme suggests that rectangles are introduced incidentally in Term 1.

1. When you taught squares did you find that learners confused squares and rectangles? Give reasons to support your answer.

   _____
   _____
   _____
   _____

   Learners need to see the differences between the two shapes. Even though both have four sides and four corners, the rectangle has two long sides and two short sides, and the square has four sides that are the same length.

2. How were rectangles introduced in Week 3 of the Maths Programme?

   _____
   _____
   _____
   _____

   Practically by using boxes and discussing and comparing the sides of a box.

Iseshini 2: Sikhala naBunjwa (Ijomethri)   1 li-awa

Kugcila kweThemu 1 Liviki 7 kukuSikhala naBunjwa (Ijomethri). Kumhlanganosikolo 2, sikhulume ngema-objekthi lanetinhlangotsi letintsatfu nabobunjwa netinhlangotsi leti-3 nabobunjwa labanetinhlangotsi leti-2 labanetinhlangotsi leti-2 futsi lokucuketfwe ngemaviki 3–5 kutawufezekiswa eklasini.

Sibutsetelo salokucuketfwe Ithemu 1: Sikhala naBunjwa (Ijomethri)

Umsebenti 6

Fundza Inkhundla Yalokucuketfwe yeSikhala naBunjwa (Ijomethri) kumakhasi 126–131 e*Nkhombandlela Yemcondvo.* Utawubona kutsi letindingilizi, tikwele nabocalantsantfu betfulwe ku-CAPS kuThemu 1 bese kutsi bocalandze bona betfulwe kuThemu 4. LoLuhlelo Lwetibalo lubeka kutsi bocalandze betfulwa ngalokungakacashelwa kuThemu 1.

1.   Ngesikhatsi ufundzisa tikwele ubonile kutsi bafundzi bebadideka batsi tikwele bocalandze? Niketa tizatfu letesekela imphendvulo yakho.

_____
_____
_____
_____

Bafundzi badzinga kubona umehluko emkhatsini walabobunjwa lababili. Nanoma-nje bobabili banemacala lamane nemakona lamane, bocalandze banemacala lamabili lamadze nemacala lamabili lamafishane lalinganako ngebudze.

2.   Betfulwe kanjani bocalandze kuLiviki 3 leLuhlelo Lwetibalo?

_____
_____
_____
_____

Ngendlela yekutetayeta ngekusebentisa emabhokisi nekukhuluma kanye nekucatsanisa emacala elibhokisi.

Identifying 2-dimensional shapes (triangles)

Facilitator's notes

♦ Remind participants that in Workshop 2 they learnt about 3-dimensional objects and 2-dimensional shapes.
3-dimensional means that an object has three dimensions: length, width and height.
2-dimensional means that a shape has length and width.
♦ Explain that triangles are taught in a similar way to circles and squares in Term 1 (Week 7).

In Grade R learners recognise, identify and name 2-dimensional shapes: circles, squares, triangles and rectangles. The Maths Programme also suggests that learners are encouraged to describe the properties of these shapes, e.g. straight or curved lines, number of lines and corners.

Learners apply their new knowledge of shapes and reinforce this learning in the independent small group activities.

Video 3

Activity Guide: Term 1, Week 7, Days 1 and 2 (pages 120–125)

Watch the video of the teacher introducing the learners to the triangle.

Notice how the teacher encourages the learners to describe the properties of the triangle.

_____

_____

_____

_____

_____

Facilitator's notes

♦ In **Activity 7** participants will reflect on how the *Poster Book* can be used during activities to stimulate discussion.
♦ PPT: Display Poster 8 and ask participants to respond to the questions in **Activity 7**.
♦ After the activity ask participants which properties of 2-dimensional shapes were discussed and what maths language was used.
♦ Remind participants that 2-dimensional means that a shape has length and width (breadth) and that 3-dimensional means that an object has length, width and height.

Kukhomba bobunjwa labangu-2-D (bocalantsatfu)

Emanotsi emfundzisi

♦ Khumbuta bahlanganyeli kutsi kuMhlanganosikolo 2 bafundze ngema-objkethi latinhlangotsi le-3 nabobunjwa labatinhlangotsi le-2.

   Tinhlangotsi leti-3 *kusho kutsi i-objekthi inetinhlangotsi letintsatfu: budze, bubanti nebudzekuphakama.*

   Tinhlangotsi leti-2 *kusho kutsi bunjwa unebudze nebubanti.*

♦ Chaza kutsi bocalantsatfu bafundziswa ngendlela lefananako neyekufundzisa tindingilizi netikwele kuThemu 1 (Liviki 7).

KuLibanga R bafundzi bayabona, bayakhomba baphindze futsi basho emagama abobunjwa labanetinhlangotsi le-2: tindingilizi, tikwele, bocalantsatfu nabocalandze. LoLuhlelo Lwetibalo luphindze futsi lubeke kutsi bafundzi bakhutsatwa kutsi kucacisa emaphrophathi alabobunjwa, sib. ucondzile noma ugobile, linani lemigca nemakona.

Bafundzi basebentisa lwati lwabo lwabobunjwa lolusha baphindze futsi bagcizelele kufundza loku kumsebenti wekutimela wemacembu lamancane.

📹 Ividiyo 3

Inkhombandlela Yemsebenti: Ithemu 1, Liviki 7, Lilanga 1 na 2 (emakhasi 120–125)

Bukela ividiyo yathishela angenisa bafundzi kucalantsatfu.

Caphela kutsi thishela ubakhutsata kanjani bafundzi kutsi bachaze emaphrophathi acalantsatfu.

_____

_____

_____

_____

_____

Emanotsi emfundzisi

♦ Ku**Msebenti 7** bahlanganyeli batawubuyeketa kutsi *Incwadzi Yemaphosta* ingasetjentiswa kanjani ngesikhatsi semisebenti kutsi ivuse ingcogco.

♦ PPT: Beka ukhangise Iphosta 8 uphindze futsi ucele bahlanganyeli kutsi baphendvule imibuto ku**Msebenti 7**.

♦ Uma sewentiwe lomsebenti buta bahlanganyeli kutsi ngumaphi emaphrophathi abobunjwa labanetinhlangotsi le-2 lekukhulunywe ngabo nekutsi futsi nguluphi lulwimi lwetibalo lolusetjentisiwe.

♦ Khumbuta bahlanganyeli kutsi tinhlangotsi le-2 kusho kutsi bunjwa unebudze nebubanti nekutsi tinhlangotsi le-3 kusho kutsi i-objekthi inebudze, bubanti nebudzekuphakama.

Activity Guide: Term: Term 1 provides many opportunities throughout the term for teachers to use open-ended questions. The *Poster Book* is used during whole class activities and small group teacher-guided activities to encourage learners to express their own ideas and solve problems.

In Activity 7, you will discuss a poster and talk about whether the questions posed are 'open-ended' or 'closed' questions.

Activity 7

1. Look at Poster 8 and respond to the following questions.

♦ How many triangles can you see? closed

_____

♦ How do you know it is a triangle? open-ended

_____

♦ How many sides does it have? closed

_____

♦ How many corners does it have? closed

_____

♦ How many lines? closed

_____

♦ Can you see any other triangles? closed

_____

♦ What other shapes can you see? closed

_____

♦ What is the same about these two shapes? open-ended

_____

♦ What is different about these two shapes? open-ended

_____

2. Which of the questions above are open-ended and which are closed questions?

_____

_____

Inkhombandlela Yemsebenti: Ithemu 1 iniketa ematfuba lamanyenti kuyo yonkhe ithemu ekutsi bothishela basebentise imibuto levulekile. *Incwadzi Yemaphosta* isetjentiswa ngesikhatsi semisebenti yeliklasi lonkhe nesemisebenti yemacembu lamancane leholwa nguthishela kukhutsata bafundzi kutsi babeke imibono yabo kanye nekusombulula tinkinga.

KuMsebenti 7, nitawukhuluma ngephosta niphindze futsi nikhulume ngekutsi lemibuto lebutiwe imibuto 'levulekile' yini noma 'levalekile'.

👪 Umsebenti 7

1. Buka Iphosta 8 bese uphendvula lemibuto lelandzelako.
♦   Bangaki bocalantsatfu lobabonako? lovalekile
_____
♦   Wati kanjani kutsi ngucalantsatfu? lovulekile
_____
♦   Unemacala lamangaki? lovalekile
_____
♦   Unemakona lamangaki? lovalekile
_____
♦   Unemigca lemingaki? lovalekile
_____
♦   Bakhona yini labanye bocalantsatfu lobabonako? lovalekile
_____
♦   Ngubaphi labanye bobunjwa lobabonako? lovalekile
_____
♦   Yini lokufananako ngalabobunjwa lababili? lovulekile
_____
♦   Yini leyehlukile ngalabobunjwa lababili? lovulekile
_____

2. Nguyiphi yalemibuto lengetulu lemibuto levulekile futsi nguyiphi lemibuto levalekile?

_____
_____

The **guidance principle** encourages teachers and learners to work together to solve problems using effective questioning.

♦ **Closed questions** are questions that have a limited 'yes' or 'no' response. Closed questions can be helpful in finding out what learners know, like 'Which shape is a triangle?', 'What colour is it?'

♦ **Open-ended questions** have more than one possible answer, stimulate thinking and encourage learners to express their own ideas when solving problems.

Not all learners will grasp these concepts or learn the maths language at the same time (**level principle**).

Maths vocabulary

When learners investigate, and describe shapes and objects, they use everyday language like 'flat', 'smooth' and 'pointy'. Teachers can introduce maths vocabulary to replace everyday language, for example: straight lines, curved lines, corners, sides. We also talk about how long something is, how wide it is and refer to the height of something.

Refer to the pages 190–193 of the *Concept Guide* to read more about asking questions related to teaching and learning Space and Shape (Geometry) concepts. Also read page 192 for more about Space and Shape (Geometry) vocabulary in Grade R.

- Khuluma ngetinhlobo temibuto lebutwe ku**Msebenti 7** nekutsi **umtsetfosimiso wekukhombindlela** ukukhutsata kanjani kusombulula tinkinga ngekubuta imibuto ngalokuyimphumelelo.
- Gcamisa kubaluleka kwekusebentisa silulumagama selulwimi ekukhulumisaneni nebafundzi.
- Khumbuta bahlanganyeli kutsi bafundzi bayibamba imibono/imicondvo ngesikhatsi sinye (**umtsetfosimiso welizinga**) nekutsi futsi bafanele kutsi bakhutsatwe kwabelana labakucabangako futsi banikwe imisebenti yekutetayeta leminyenti nematfuba ekukhuluma ngabobunjwa.

Umtsetfosimiso wekukhombindlela ukhutsata bafundzi nabothishela kutsi basebentisane kusombulula tinkinga basebentisa kubuta imibuto lokunemphumelelo.

- **Imibuto levalekile** yimibuto lenetimphendvulo letibo'yebo' noma 'cha' letinemkhawulo. Imibuto levalekile ingaba lusito ekutfuleni kutsi bafundzi bati ini, njengekutsi 'Ngumuphi bunjwa longucalantsatfu?', 'Unemibala lenjani?'
- **Imibuto levulekile** inetimphendvulo letingaba ngito letingetulu kwayinye, uvusa kucabanga iphindze futsi ikhutsate bafundzi kutsi babeke imibono yabo uma basombulula tinkinga.

Akusibo bonkhe bafundzi labatawubamba lemicondvo noma bafundze lulwimi lwetibalo ngesikhatsi sinye (**umtsetfosimiso welizinga**).

Silulumagama selulwimi

Uma bafundzi baphenya, baphindze futsi bachaze bobunjwa nema-objekthi, basebentisa lulwimi lwemalanga onkhe njengekutsi 'sicaba', 'busheleleti' kanye na'cijile'. Bothishela bangetfula silulumagama setibalo kute singene esikhundleni selulwimi lwemalanga onkhe, sibonelo: imigca lecondzile, imigca legobile, emakona, emacala. Siphindze futsi sikhulume ngekutsi intfo yindze kangakanani, ibanti kangakanani siphindze futsi sibhekise kubudzekuphakama bentfo letsite.

Fundza emakhasi 190–193 e*Nkhombandlela Yemcondvo* kute ufundze kabanti ngekubuta imibuto lephatselene nekufundzisa nekufundza ngemicondvo yeSikhala naBunjwa (Ijomethri). Fundza futsi nelikhasi 193 utfole kabanti ngesilulumagama seSikhala naBunjwa (Ijomethri) kuLibanga R.

Session 3: Measurement

1 hour

The focus of Term 1 Week 8 is Measurement: time and length.

Term 1 Content overview: Measurement

Activity 8

Refer to the Measurement Content Area on pages 132–135 of the *Concept Guide*.
In your group, review:
1. What concepts are covered in Term 1?

_____

_____

2. What are the differences between this content and the content from CAPS?

_____

_____

What is measurement?

Iseshini 3: Kulinganisa

Emanotsi emfundzisi
- Chaza kutsi kugcila kweLiviki 8 kuKulinganisa.
- Tjela bafundzi kutsi bafundze emakhasi 132–135 e*Nkhombandlela Yemcondvo*.
- Yenta bahlanganyeli basebente ngemacembu bente bacedze **Umsebenti 8**. Cela umuntfu welicembu ngalinye kutsi babelane imibono yabo.

Kugcila kweThemu 1 Liviki 8 kuKulinganisa: sikhatsi nebudze.

Sibutsetelo salokucuketfwe seThemu 1: Kulinganisa

Umsebenti 8

Fundza Inkhundla Yalokucuketfwe yeKulinganisa emakhasini 132–135 e*Nkhombandlela Yemcondvo*.

Ecenjini lakho, khulumisanani:

1. Nguyiphi imicondvo lefundziswe kuThemu 1?

_____

_____

_____

2. Ngumuphi umehluko losemkhatsini walokucuketfwe kanye nalokucuketfwe kwe-CAPS?

_____

_____

Yini kulinganisa?

Emanotsi emfundzisi
- Cela bafundzi bacabange ngekutsi yini kulinganisa.
- PPT: Sitfombe lesifananako naleso lesikuMsebenti 9.
- Bahlanganyeli bayenta bacedza **Umsebenti 9** babese babelana loko labakubhalile.
- Cocisanani nelicembu ngalemibuto lelandzelako:
  Ngubani lomudze kakhudlwana?
  Ngubani losindza kakhudlwana?
  Ngubani lomdzala kakhudlwana?
- Chaza kutsi kulinganisa kumayelana nekutfola kutsi 'kungakanani' lokukhona kwalokutsite, sib. budze bentfo letsite, intfo iphatsa noma-ke imumatsa lokungakanani (umtsamo), sisindvo sentfo letsite noma kutsatsa sikhatsi lesingakanani kwenta intfo letsite (sikhatsi).
- Chaza kutsi kukhula ngekulinganisa udzinga kutsi usho loko lofuna kukukala – i-athribhuyithi. Niketa tibonelo tema-athribhuyithi: budze, budzekuphakama, sisindvo, umtsamo.
- Sebentisa lolwatiso lolungentasi kweMsebenti 9 kuchaza emayunithi ekukala lasezingeni nalangekho ezingeni.
- Chaza kutsi Libanga R, bafundzi bakala basebentisa emayunithi ekukala lasezingeni nalangekho ezingeni kukala sikhatsi, budze, sisindvo noma umtsamo.

31

In Activity 9 we will discuss the question 'What is measurement?'.

Activity 9

Look at the picture below and answer the question.

Who is the biggest?

_____

Measurement is about finding 'how much' there is of a thing, e.g.:
♦   the length of something
♦   how much something holds
♦   the mass of something
♦   how long it takes to do something.

In order to measure, we need to decide on which attribute (feature/characteristic) we want to measure, e.g. length, mass, time. We use the following words to describe the measurements: taller, heavier, older.

KuMsebenti 9 sitawukhuluma ngalombuto 'Yini kulinganisa?'.

Umsebenti 9

Buka lesitfombe lesingentasi bese uphendvula lombuto.

Ngubani lomkhulu kakhulu?

_____

Kulinganisa kumayelana nekutfola kutsi 'kungakanani' kwalokutsite, sib.:
♦ budze bentfo letsite
♦ kutsi intfo iphatsa noma-ke imumatsa intfo lengakanani
♦ sisindvo sentfo letsite
♦ kutsatsa sikhatsi lesingakanani kwenta intfo letsite.

Kute kutsi sikale, sifanele kutsi sincume kutsi nguyiphi i-athribhuyithi (luphawunkhomba/umkhuba) lesifuna kuyikala, sib. budze, sisindvo, sikhatsi.

Sisebentisa lamagama lalandzelako kucacisa kulinganisa: mudze kakhudlwana, usindza kakhudlwana, mdzala kakhudlwana.

We need to use units to measure. These can be non-standard units or standard units.

♦ **Non-standard measuring units** include hands, feet, crayons, pieces of string, sticks and blocks.

♦ **Standard measuring units** include litres, millilitres, kilograms, grams, metres, hours, minutes, etc.

In Grade R learners measure **informally** and use **non-standard measuring units** to measure time, length, mass, capacity and volume.

Direct comparison

Facilitator's notes
♦ Demonstrate how to use direct comparison and a non-standard unit of measurement. Ask eight volunteers to stand in front. Ask: Who is the tallest in the group? How do you know? Who is the shortest in the group? How do you know? Is anyone the same height? How do you know? How can we find out? ♦ Have the participants stand back-to-back to compare their height. Afterwards, ask participants to complete **Activity 10**. ♦ Discuss that by directly comparing the attribute (height) of the two people, we could find out who was taller. ♦ Point out that this measurement activity has been taken from Week 8 in *Activity Guide: Term 1* (pages 136–149) and that participants should refer to this activity when planning.

Measurement in Grade R includes comparing the attribute of something 'directly' with something else. For example, measuring the length of a crayon against another crayon or comparing the height of two learners standing back-to-back.

Observe the facilitator measuring a group of participants and then complete Activity 10 in your group.

 Activity 10

Refer to pages 194–207 of the *Concept Guide* to read more about Measurement and pages 136–149 of *Activity Guide: Term 1* before you answer the questions below.

Sidzinga kukala sisebentisa emayunithi. Kungaba ngemayunithi lasezingeni noma emayunithi langekho ezingeni.

♦ **Emayunithi ekukala langekho ezingeni**: afaka ekhatsi tandla, tinyawo, emakhrayoni, tintsambo, tindvuku nemabhlokhi.

♦ **Iyunithi yekukala lesezingeni** ifaka ekhatsi emalitha, emamililitha, emakhilogremu, emagremu, emamitha, ema-awa, emaminitsi, njll.

KuLibanga R bafundzi bakala **ngalokungekho ezingeni** baphindze futsi basebentise **emayunithi ekukala lasezingeni le**kukala sikhatsi, budze, sisindvo, umtsamo kanye nevolumu.

Kucatsanisa-ngco

Emanotsi emfundzisi
♦ Khombisa kutsi kusetjentiswa njani kulinganisa-ngco kanye neyunithi ekukala langekho ezingeni. Cela labatinikele labasiphohlongo kutsi beme embili. Buta: Ngubani lomudze kakhulu kulelicembu? Wati kanjani? Ngubani lomfishane kakhulu kulelicembu? Wati kanjani? Ukhona yini lonebudzekuphakama lobufanana nebalomunye? Wati kanjani? Singatfola kanjani? ♦ Yenta kutsi bafundzi beme bayamane ngemihlana bafulatselane kute ucatsanise budzekuphakama kwabo. Ngemuva kwaloko, cela bafundzi kutsi bente bacedze **Umsebenti 10**. ♦ Khuluma ngekutsi ngekucatsanisa-ngco i-athribhuyithi (budzekuphakama) kwalabantfu lababili, singatfola kutsi bekungubani lomudze kakhudlwana. ♦ Shano kutsi lomsebenti wekulinganisa utsetfwe kuLiviki 8 le*Nkhombandlela Yemsebenti: Ithemu 1* (emakhasi 136–149) futsi bahlanganyeli bafanele kutsi babuke lomsebenti uma bahlela.

Kulinganisa kuLibanga R kufaka ekhatsi kucatsanisa 'ngco' i-athribhuyithi yentfo letsite. Sibonelo, kukala budze bekhrayoni kucatsaniswa nalenye ikhrayoni noma kucatsanisa budzekuphakama bebafundzi lababili labeme batsintsana ngemihlana bafulatselana.

Bukisisa umfundzisi akala licembu lebahlanganyeli bese benta bacedza Umsebenti 10 ecenjini lakho.

Umsebenti 10

Fundza emakhasi 194–207 e*Nkhombandlela Yemcondvo* kute ufundze kabanti ngeKulinganisa nemakhasi 136–149 e*Nkhombandlela Yemsebenti: Ithemu 1* ngembi kwekutsi uphendvule lemibuto lengentasi.

1. What non-standard unit of measurement was used to measure the height of the participants?

_____

Learners' bodies.

2. What other non-standard units of measurement could be used to measure the height of the participants?

_____

E.g. string, pencil, block.

Time

Facilitator's notes
♦ Facilitate a discussion about teaching time to learners in Grade R – that it is an abstract concept and that learners need to learn about time from daily experiences that are familiar to them.   ♦ Ask participants to complete **Activity 11** and share their ideas with the large group. These should include: - sequencing of repeated events or activities during the day   - the weather chart with day, date and month and pictures on a weekly calendar   - the calendar with days of the week.

Time is a difficult abstract concept for learners to understand. Learners need to understand how time passes in their own lives, so teachers need to relate time to the learner's daily experiences and events that are familiar to them.

Activity 11

Refer back to Term 1 Week 8 in *Activity Guide: Term 1* and with a partner discuss how time is taught in these lessons. Share your ideas about the following.
1. How can Grade R teachers/practitioners help learners understand more about the concepts of:
♦   day and night?
♦   yesterday, today and tomorrow?
♦   how long things take?
♦   the sequence of time?

_____
_____
_____
_____

1. Nguyiphi iyunithi yekulinganisa lengekho ezingeni lesetjentiselwe kukala budzekuphakama bebahlanganyeli?

_____

Imitimba yebafundzi.

2. Ngumaphi lamanye emayunithi langekho ezingeni angasetjentiswa kukala budzekuphakama bebahlanganyeli?

_____

Sib. intsambo, ipenseli, ibhlokhi.

Sikhatsi

Emanotsi emfundzisi
♦ Chuba ingcogco mayelana nekufundzisa bafundzi beLibanga R sikhatsi – kutsi kungumcondvo longaphatseki ngesandla nekutsi bafundzi bafanele kutsi basifundze sikhatsi ngalabahlangabetana nako onkhe malanga labakwetayele.
♦ Cela bahlanganyeli kutsi bese bacedze **Umsebenti 11** baphindze futsi babelane imibono yabo nelicembu lelikhulu. Loku kufanele kutsi kufake ekhatsi: - kulandzelanisa kwetehlakalo letiphindzekako noma imisebenti leyentiwa ekuhambeni kwelilanga - lishadi lesimo selitulu lesikhombisa lilanga, lusuku nenyanga kanye netifombe tekhalenda yanjalo ngeliviki - ikhalenda lenemalanga eliviki.

Sikhatsi ngumcondvo longaphatseki ngesandla lolukhuni kutsi bafundzi bawuvisise. Bafundzi bafanele bavisise kutsi sikhatsi sihamba kanjani etimphilweni tabo, ngako-ke bothishela bafanele kutsi bahlobanise sikhatsi naloko bafundzi labahlangabetana nako etimphilweni tabo onkhe emalanga kanye netehlakalo labatetayele.

Umsebenti 11

Batjele kutsi bafundze Ithemu 1 Liviki 8 ku*Nkhombandlela Yemsebenti: Ithemu 1* ukanye nemlingani wakho cocani ngekutsi sikhatsi sifundziswa kanjani kuletifundvo. Yabelana imibono yakho ngaloku lokulandzelako.

1. Bothishela/basebenti beLibanga R babasita kanjani bafundzi kuvisisa kakhulu ngemcondvo we:
   ♦ lilanga nebusuku?
   ♦ itolo, lamuhla kanye nakusasa?
   ♦ tintfo titsatsa sikhatsi lesingakanani?
   ♦ kulandzelana kwesikhatsi?

_____
_____
_____
_____

2. How can you use your daily programme activities to teach learners about the concept of time?

_____

_____

_____

_____

Discussing the sequence of activities – e.g. what do we do first, next, what happened before Storytime – provides opportunities to reflect on what happened first/next/last.

3. What vocabulary is important to understand the concept of time?

_____

_____

_____

Before, after, next, now, then, day, night, morning afternoon, today, yesterday, tomorrow.

Refer to pages 194–207 of the *Concept Guide* to read more about Measurement and time. Refer to the page 210 of the *Concept Guide* to read more about asking questions related to teaching and learning of Measurement in Grade R.

2. Ungayisebentisa kanjani imisebenti yeluhlelo lwemalanga onkhe kufundzisa bafundzi ngemcondvo wesikhatsi?

_____

_____

_____

_____

Khulumisanani ngekulandzelana kwemisebenti – sib. yini lesicala ngayo kuyenta, lokulandzelako, yini leyenteka ngembi kweSikhatsi sendzaba – kuniketa ematfuba ekubuyeketa kutsi yini leyenteke yaba yekucala/lelandzele/leyenteke ekugcineni.

3. Ngusiphi silulumagama lesibalulekile kute uvisise silulumagama sesikhatsi?

_____

_____

_____

Ngembi, ngemuva, landzelako, manje, bese, lilanga, busuku, kuseni emini, lamuhla, itolo, kusasa.

Kufundza emakhasi 194–207 e*Nkhombandlela Yemcondvo* kute ufundze kabanti ngeKulinganisa kanye nesikhatsi. Fundza likhasi 211 le*Nkhombandlela Yemcondvo* kute ufundze kabanti ngekubuta imibuto lephatselene nekufundzisa nekufundza Kulinganisa kuLibanga R.

Session 4: Numbers, Operations and Relationships

1 hour

Facilitator's notes

♦ Draw the participants' attention to how the number 3 is introduced on pages 102–105 of *Activity Guide: Term 1*.

♦ Explain that even though the Content Area Focus is Patterns, Functions and Algebra in Week 6, the number 3 is also introduced in this week.

♦ Discuss the routine that is followed for the numbers 1 and 2 and reflect on whether the same routine is followed for number 3. Discuss how each number of pictures and dots is one more than the previous one and make the connection to the fact that 2 is one more than 1 and 3 is one more than 2.

♦ Explain that in Week 6 learners are also introduced to dot cards.

♦ Use the dot cards in the *Resource Kit* to demonstrate how learners match counters to the dot cards and discover that 3 is made up of 1 and 2 dots.

In Workshop 2, you were introduced to the concepts of counting and representation of number. In this workshop we will see how the same ideas continue into Week 6 as the number 3 is introduced. The same routine is followed as with numbers 1 and 2, namely:

Refer to pages 102–105 of *Activity Guide: Term 1* for the introduction of number '3' activity.

Tell the *Number 3 story* and dramatise as you build up the story with the different representations of the number using frieze cards from the *Resource Kit*:

♦ animal (picture)

♦ number symbol

♦ number word

♦ dots (representing the doorbells).
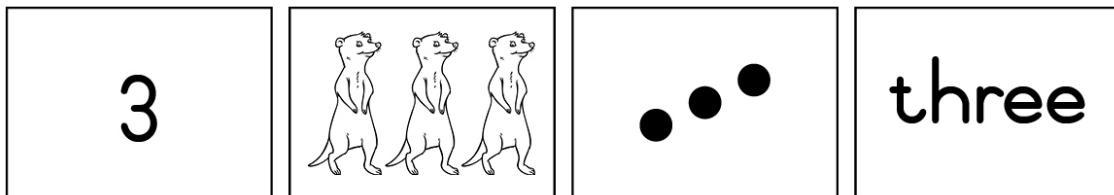
Look for objects and match the number symbol (3) and number word (three). In Week 6, learners are introduced to dot cards (from the *Resource Kit*). Learners match counters to the dot cards and discuss that 3 is made up of 1 and 2 dots.

Iseshini 4: Tinombolo, Ema-ophareshini neBudlelwane

1 li-awa

Emanotsi emfundzisi

♦ Yenta bahlanganyeli banake kutsi inombolo 3 yetfulwa njani kumakhasi 102–105 e*Nkhombandlela Yemsebenti: Ithemu 1*.

♦ Chaza kutsi nanoma Kugcila Kwemkhakha Walokucuketfwe kukuMaphethini, Emafangshini ne-Aljebhra kuLiviki 6, inombolo 3 iphindze futsi yetfulwe kuleliviki.

♦ Khulumisanani ngenhlalayenta lelandzelwako kutinombolo 1 na-2 bese nibuyeketa kungalandzelwa inhlalayenta lefananako yini kunombolo 3. Khulumisanani ngekutsi linani ngalinye lenombolo yetitfombe nemacashati kukhulu kangakanani ngakunye ngetulu kuna leli lasekucaleni bese nichumanisa kutsi 2 mkhulu noma-ke ungetulu kwa-1 ngakunye nekutsi 3 ungetulu kwa-2 ngakunye.

♦ Chaza kutsi kuLiviki 6 bafundzi baphindze futsi betfulwe kumakhadi emacashati.

♦ Sebentisa likhadi emacashati laku*Khithi Yetinsita* kukhombisa kutsi bafundzi batimatanisa kanjani tibali nemakhadi emacashati bese batfola kutsi 3 wakhiwa ngemacashati 1 nala-2.

KuMhlanganosikolo 2, wetfulwe kumicondvo yekubala nekumelela inombolo. Kulomhlanganosikolo sitawubona kutsi lemibono ichubeka kanjani iye kuLiviki 6 ngesikhatsi kwetfulwa inombolo 3. Kulandzela inhlalayenta lefananako nakunombolo 1 na- 2, lekungulena:

Fundza emakhasi 102–105 e*Nkhombandlela Yekufundza: Ithemu 1* yekungenisa umsebenti wenombolo '3'.

Coca *Indzaba yanombolo 3* uphindze futsi uyente samdlalo ngesikhatsi ukhulisa lendzaba ngekumelela lokwehlukene kwalenombolo usebentisa emakhadi efrizi ku*Khithi Yetinsita*:

♦ silwane (sitfombe)
♦ luphawu lwenombolo
♦ ligama lenombolo
♦ emacashati (amelele tinsimbi tasemnyango).
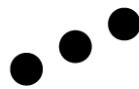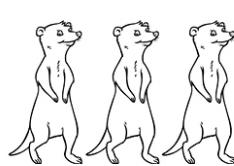
Funa ema-objekthi bese umatanisa luphawu lwenombolo (3) neligama lenombolo (kutsatfu). KuLiviki 6, bafundzi bangeniswa kumakhadi emacashati (laku*Khithi Yetinsita*). Bafundzi bamatanisa tibali nemakhadi emacashati bese nikhulumisana ngekutsi 3 wakhiwa ngemacashati 1 nala-2.

Term 1 Content overview: Numbers, Operations and Relationships

Facilitator's notes
♦ Explain that the focus of Week 9 is on Numbers, Operations and Relationships.   ♦ Refer participants to pages 114–123 of the *Concept Guide*.   ♦ Have participants work in groups to complete **Activity 12**. Ask one person from each group to share their ideas.

Week 7 focuses on Space and Shape (Geometry) while Week 8 focuses on Measurement. The focus of Week 9 in Term 1 is once more on number concepts. In this session, you will investigate the relationship between numbers.

Activity 12

Refer to the Numbers, Operations and Relationships content overview on pages 114–123 of the *Concept Guide*. In your group, discuss the following features of the content overview:
1. What is Topic 1.4?
2. What sub-topics are listed under this topic?
3. What are the differences between the blue and black text? Explain why you think this is so.

Calculating

Facilitator's notes
♦ Point out that learners in Grade R do not do number operations such as addition and subtraction, multiplication and division. Give an example of how these concepts are gradually built up through counting and manipulation of concrete materials and through problem solving in appropriate real-life contexts.   ♦ Demonstrate an activity that involves breaking down and building up numbers ('Shake and break' on pages 166–169 of *Activity Guide: Term 1*).   ♦ After the demonstration, participants complete **Activity 13**. Ask one person from each group to share their ideas.   ♦ Discuss which of the questions asked were open-ended and which were closed questions.   ♦ Remind participants that not all learners will demonstrate an understanding of these number concepts at the same time (**level principle**).

In Grade R learners do not do number operations like addition and subtraction, multiplication and division. These concepts are gradually built up through investigation and through problem solving. For example: *I have three apples. I eat one. How many apples do I have left?*

Sibutsetelo Salokucuketfwe SeThemu 1: Tinombolo, Ema-ophareshini neBudlelwane

Liviki 7 ligcile kuSikhala naBunjwa (Ijomethri) kantsi Liviki 8 lona ligcile kuKulinganisa. Gcila kuLiviki 9 kuThemu 1 liyaphindza futsi likhuluma ngemicondvo yetinombolo. Kuleseshini, utawuphenya ngebudlelwane lobukhona emkhatsini wetinombolo.

👪 Umsebenti 12

Fundza sibutsetelo salokucuketfwe seTinombolo, Ema-ophareshini neBudlelwane emakhasini 114–123 e*Nkhombandlela Yemcondvo*. Ecenjini lakho, khulumisanani nganaku lokulandzelako kwesibutsetelo salokucuketfwe:

1. Yini Sihloko 1.4?
2. Ngutiphi tihloko letincane letibhalwe ngaphasi kwalesihloko?
3. Yini umehluko lokhona emkhatsini wembhalo loluhlata sasibhakabhaka nalomnyama? Chaza kutsi wentiwa yini kutsi ucabange kanjalo.

Kubala

KuLibanga R bafundzi abatati abawenti ema-ophareshini etinombolo njengekuhlanganisa (kwengeta) kususa, kuphindzaphindza kanye nekwehlukanisa. Lemicondvo lena yakheka kancane kancane ngekuphenya nangekusombulula tinkinga. Sibonelo: *Nginemahhabhula lamatsatfu. Ngidla linye. Ngisele nemahhabhula lamangaki?*

Learners need to understand the relationship between numbers. Activities that involve breaking down and building up numbers help learners to understand the relationships between numbers and the value of numbers. For example: *5 is made up of 2 and 3, 1 and 4.*

Demonstration
Watch the demonstration of a 'shake-and-break' game and then discuss your observations in your group.

Activity 13

Discuss the demonstration you have just watched.
1. What number concepts could the learners learn by playing this game?
   _____
   _____
   Combining (adding) and separating (subtraction).

2. What questions did the facilitator use that highlighted addition and subtraction?
   _____
   _____
   _____
   _____
   How many counters do I have in this hand? And in this hand? When I put them together how many do I have?
   How did you break up your counters?
   How many do you have on each lid? When you put them together how many do you have?
   If you take the ones on this lid away how many will you have left?

   Not all learners will demonstrate an understanding of these number concepts at the same time (**level principle**).

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Bafundzi bafanele kutsi bavisise budlelwane emkhatsini wetinombolo. Imisebenti lefaka ekhatsi kubhidlita nekwakha tinombolo kusita bafundzi bavisise budlelwane emkhatsini wetinombolo nemanani etinombolo. Sibonelo: *5 sakhiwa nguku-2 na-3, 1 naku-4.*

Kukhombisa
Buka kukhonjiswa kwemdlalo 'wekukhuhlutisa bese uyahlukanisa' bese ukhulumisana nelicembu lakho ngaloko lokubonile.

Umsebenti 13

Khulumisanani ngalokukhombisa locedza kukubukela.
1.	Nguyiphi imicondvo yetinombolo lengafundvwa bafundzi ngekudlala lomdlalo?
	_____
	_____
	Kube ndzawonye (kuhlanganisa) nekwehlukanisa (kukhipha).

2.	Nguyiphi imibuto umfundzisi layisebentisile legcamise kuhlanganisa nekususa?
	_____
	_____
	_____
	_____
	Ngina tingaki tibali kulesandla lesi? Hlanganisa nalesandla lesi? Uma ngitibeka ndzawonye ngitawuba natingaki?
	Utehlukanise kanjani letibali?
	Unatingaki esimbonyweni ngasinye? Uma utibeka ndzawonye uba natingaki?
	Uma ngabe utsatsa leti letikulesivalo lesi kutawusala tingaki?

Akusibo bonkhe bafundzi labatawukhombisa kuvisisa lemicondvo yetinombolo ngesikhatsi sinye (**umtsetfosimiso welizinga**).

Session 5: Planning for teaching

1 hour

Term 1 Content Summary (Weeks 6–9)

Appendix A: Term 1 Weekly Content Summary (Weeks 6–9) outlines the main Content Area Focus for each week, the topics to be covered, the new knowledge and practise focus for each week, and suggested activities for whole class, teacher-guided and independent group work for the week.

Activity 14

Look at Appendix A: Term 1 Weekly Content Summary (Weeks 6–9). Answer the questions.

Questions	Week 6	Week 7	Week 8	Week 9
What is the Content Area Focus for the week?	Patterns, Functions and Algebra	Space and Shape (Geometry)	Measurement	Numbers, Operations and Relationships
What are the key concepts that learners will be learning?	Patterns Number 3 Sequencing numbers	Bobunjwa lababo-2-D Figure ground Position Oral counting	Length/height Time	Estimation More and less Position Problem solving
What new knowledge is introduced?	Identifying patterns Copying patterns Number 3 Sequencing numbers 1–3	2-D triangles Figure ground Position: in front of, behind	Sequencing time: day and night; light and dark Length: height chart Position: on, under, on top Counting backwards 5–1	Estimation Numbers in familiar contexts One more, one less Position: up/down
What skills are being practised?	Oral counting 1–5 Counting objects 1–5 Reinforce number concepts 1 and 2	Circle, square Counting objects 1–5 Reinforce number concept 1–3 Sequence numbers 1–3 Symmetry Big, small	Oral counting 1–10 Sequencing numbers 1–3 Counting objects 1–5 Reinforce 1–3	Oral counting 1–10 Counting backwards from 5 Sequence numbers 1–3 Count objects 1–5 Number concept 1–3 Problem solving Circle, square, triangle

Iseshini 5: Kuhlela kufundzisa

Emanotsi emfundzisi

- ♦ Tjela bahlanganyeli bafundze Sengeto A: Ithemu1 Sibutsetelo Salokucuketfwe Seliviki (Emaviki 6–9).
- ♦ Fundza tigaba temisebenti yeliklasi lonkhe, leholwa nguthishela neyendzawo yekusebentela.
- ♦ Yenta bahlanganyeli basebente ngemacembu bate bacedze **Umsebenti 14**.

Sibutsetelo Salokucuketfwe Seliviki SeThemu 1 (Emaviki 6–9)

Sengeto A: Ithemu 1 Sibutsetelo Salokucuketfwe Seliviki (Emaviki 6–9) sibeka emabalengwe eKugcila Kwemkhakha Walokucuketfwe lokukhulu kweliviki ngalinye, tihloko lekutawukhulunywa ngato, lwati lolusha nekutetayeta kugcila kweliviki ngalinye, uphindze futsi wente tincomo temisebenti yeliklasi lonkhe, leholwa nguthishela kanye nemsebenti welicembu lelitimele.

Umsebenti 14

Buka Sengeto A: Ithemu 1 Sibutsetelo Salokucuketfwe Seliviki (Emaviki 6–9). Phendvula lemibuto.

Imibuto	Liviki 6	Liviki 7	Liviki 8	Liviki 9
Ngumuphi Umkhakha Walokucutketfwe Wekugcila kuleliviki?	Emaphethini, Emafangshini ne-Aljebhra	Sikhala naBunjwa (Ijomethri)	Kulinganisa	Tinombolo, Ema-ophareshini neBudlelwane
Nguyiphi imicondvo lebalulekile letawufundvwa bafundzi?	Emaphethini Inombolo 3 Kulandzelanisa tinombolo	Bobunjwa lababo-2-D Kubona sitfombe kulesinye Sikhundla Kubala ngemlomo	Budze/budzekuphakama Sikhatsi	Kulinganisela Nyenti nambalwa Indlela Kusombulula tinkinga
Nguluphi lwati lolusha lolwetfuliwe?	Khomba emaphethini Kopa emaphethini Inombolo 3 Kulandzelanisa tinombolo 1–3	Bobunjwa lababo-2-D: calantsatfu Kubona sitfombe kulesinye Sikhundla: ngembili kwalokutsite nangemuva	Kulandzelanisa sikhatsi: imini nebusuku; kukhanya nebumnyama Budze: lishadi lebudzekuphakama Sikhundla: ngetulu, ngaphansi, ngetulu Kubala uye emuva 5–1	Kulinganisela Tinombolo etingcikitsini simo letetayelekile Kunye ngetulu, kunye ngaphansi Indlela: etulu naphansi
Ngumaphi emakhono lotawetayetwa wona?	Kubala ngemlomo 1–5 Kubala ema objekthi 1–5 Gcizelela imicondvo yetinombolo 1 na-2	Indingilizi, sikwele Kubala ema-objekthi 1–5 Gcizelela imicondvo yenombolo 1–3 Kulandzelanisa tinombolo 1–3 Isimethri Khulu, ncane	Kubala ema-objekthi 1–10 Kulandzelanisa tinombolo 1–10 Kubala ema-objekthi 1–5 Gcizelela tinombolo 1–3	Kubala ngemlomo 1–10 Kubala uye emuva kucala ku-5 Kulandzelanisa tinombolo 1–3 Kubala ema-objekthi 1–5 Umcondvo wenombolo 1–3 Kusombulula tinkinga Indingilizi, sikwele nacalantsatfu

Activity Guide: Term 1: Weeks 6, 7, 8 and 9

Refer to Weeks 6, 7, 8 and 9 in *Activity Guide: Term 1*. Complete Activity 15 in your group.

Activity 15

Find Weeks 6, 7, 8 and 9 in *Activity Guide: Term 1*. Answer the questions.

1. What is the Content Area Focus for each week?
2. What topics and new knowledge are taught in each week?
3. How does the 'Practise' content link to the previous week?
4. What do you need to get ready before teaching each week?
5. Read the whole class activities and small group activities.
6. Discuss in your small group how you will plan and organise your class for these four weeks of teaching.

Remember that in Grade R assessment is informal and continuous. We need to observe learners throughout the day, inside and outside the classroom. The eye icon reminds us that we need to observe the learners while they are busy, and we need to listen carefully while they are talking to us and to their peers.

The Maths Programme is designed around the rotation of small groups during a week and the teacher pays special attention to one group a day, watching and listening as the learners complete specific tasks. This time gives the teacher the opportunity to carefully observe each learner and gather information on their progress.

Look at the shaded block at the end of the teacher-guided activity: '**Check that learners are able to**'. The teacher makes a mental note of each learner and once the learners have left for the day she writes down her observations in a dedicated observation book that has space for each learner's notes.

Closing activities

Facilitator's notes

- **Lessons learnt:** Ask participants to think about what they have learnt during the workshop and to complete **Activity 16** individually.
- **Take back to school task:** Read through this task. Ask if there is anything that is not clear and that requires more explanation.
- **Evaluation:** Hand out copies of the Workshop Evaluation Form and have participants complete the form.
- **Next workshop:** Give dates for the next workshop and close the workshop.

Inkhombandlela Yemsebenti: Ithemu 1: Emaviki 6, 7, 8 na-9

Fundza Emaviki 6, 7, 8 na-9 ku*Nkhombandlela Yemsebenti: Ithemu 1*. Yenta ucedze Umsebenti 15 ecenjini lakho.

Umsebenti 15

Tfola Emaviki 6, 7, 8 ne 9 ku*Nkhombandlela Yemsebenti: Ithemu 1*. Phendvula imibuto.
1. Yini Kugcila Kumkhakha Walokucuketfwe kweliviki ngalinye?
2. Ngutiphi tihloko nelwati lolufundziswa ngeliviki ngalinye?
3. Lokucuketfwe kwa'Tetayete' kuchumana kanjani neliviki leliphelile?
4. Yini lodzinga kukulungiselela ngembi kwekufundzisa liviki ngalinye?
5. Fundza yonkhe imisebenti yeliklasi lonkhe nemisebenti yemacembu lamancane.
6. Cocisanani emacenjini enu lamancane kutsi utawenta lisu uphindze futsi ulihlele kanjani liklasi lakho kulamaviki lamane ekufundzisa

Khumbula kutsi luhlolo lweLibanga R luluhlolo lolungakahleleki kantsi futsi luyachubeka. Sidzinga kubukisisa bafundzi lilanga lonkhe, ngekhatsi nangaphandle kweliklasi. Loluphawu lweliso lusikhumbuta kutsi sidzinga kubukisisa bantfwana ngesikhatsi basematasatasa, futsi sidzinga kulalelisisa ngesikhatsi bakhuluma natsi nabontsanga yabo.

LoLuhlelo Lwetibalo lwentiwe lwamisela ekujikeliseni emacembu lamancane ekuhambeni kweliviki futsi thishela unaka licembu linye ngelilanga, abuke futsi alalele bafundzi ngesikhatsi benta imisebenti yabo. Manje nika bafundzi litfuba lekubukisisa umfundzi ngamunye bese ugcogca lwatiso ngenchubekelembili yabo.

Buka lebhlokhi lehlikihliwe ekugcineni kwemsebenti loholwa nguthishela: '**Hlola kutsi bafundzi bayakhona ku**'. Thishela ubhala emanotsi akhe engcondvweni ngemfundzi ngamunye futsi kutawutsi bafundzi bangacedza umsebenti welusuku bahambe utawubese ubhala phasi konkhe lakubukisisile encwadzini yakhe yemsebenti wekubukisisa lenendzawo yemanotsi yemfundzi ngamunye..

Imisebenti yekuvala

Emanotsi emfundzisi
♦ **Sifundvo lesifundziwe:** Cela bahlanganyeli bacabange ngaloko labakufundzile kulomhlanganosikolo nekutsi babhale **Umsebenti 16** ngamunye.
♦ **Umsebenti wekubuyela emuva esikolweni:** Fundza wonkhe lomsebenti. Babute kutsi kukhona yini lokungacaci futsi lokudzinga kuchazwa kabanti.
♦ **Kuhlolisisa:** Banike emakhophi eLifomu Lekuhlolisisa Umhlanganosikolo futsi yenta bahlanganyeli baligcwalise lelifomu.
♦ **Umhlanganosikolo lolandzelako:** Niketa tinsuku temhlanganosikolo lolandzelako bese uyawuvala lomhlanganosikolo.

Activity 16

Lessons learnt: Think about what you learnt during the workshop and complete the table.

Things I am already doing that work well	New ideas that I would like to try

❗ Take back to school task

1. Read the *Concept Guide* pages that were referred to during this workshop.
2. Use *Activity Guide: Term 1* to plan and implement Weeks 6–9 of the Maths Programme, including creating a maths area with a focus on the concept for each week.
3. Write an evaluation of what worked well and what did not work so well. Bring your plan and evaluation to the next workshop.
4. Bring examples or photographs of work that learners did.

Evaluation

Complete the Evaluation Form.

👥 Umsebenti 16

Sifundvo lesifundziwe: Cabanga ngaloko lokufundzile kumhlanganosikolo bese ugcwalisa lelithebula.

Tintfo lesengivele ngitenta letisebenta kahle	Imibono lemisha lengitayetama

---

❗ Umsebenti wekubuyisela emuva esikolweni

1. Fundza emakhasi e*Nkhomandlela Yemcondvo lokutsiwe wafundze ngesikhatsi salomhlanganosikolo*.
2. Sebentisa *Inkhombandlela Yemsebenti: Ithemu 1* kuhlela nekufezekisa Emaviki 6–9 eLuhlelo Lwetibalo, kufaka ekhatsi kwakha indzawo yetibalo.
3. Bhala silinganiso saloko lokusebente kahle kakhulu naloko lokungakasebenti kahle kakhulu. Wota nelisu lakho nesilinganiso kumhlanganosikolo lolandzelako.
4. Letsa tibonelo noma titfombe temsebenti lowentiwe bafundzi.

Kuhlolisisa

Gwalisa leLiFomu Lekuhlolisisa.

APPENDIX A: TERM 1 WEEKLY CONTENT SUMMARY (WEEKS 6–9)

Term 1: Activity Plan

<table>
<tr><td colspan="5" align="center">Week 6</td></tr>
<tr><td colspan="5">CONTENT AREA: PATTERNS, FUNCTIONS and ALGEBRA</td></tr>
<tr><td colspan="5">TOPIC: Geometric patterns
INTRODUCE NEW KNOWLEDGE: Identify patterns, copy patterns, complete patterns, introduce number 3, sequencing numbers 1–3. Making groups the same.
PRACTISE: Oral counting 1–5, counting objects 1–5, number concept 1 and 2, circle, square, big and small, forwards and backwards</td></tr>
<tr><td colspan="2">Whole class activities</td><td>Teacher-guided activity</td><td colspan="2">Workstation activities</td></tr>
<tr><td>Day 1</td><td>Introduce number 3 number frieze story.</td><td rowspan="5">Play a movement game using symbols 1 and 2.
Match and order dot picture/number cards 1–3.
Simple pattern using counters. Discuss the pattern, use counters to copy the pattern.
Problem solving 1–3. Making groups the same.</td><td>Activity 1</td><td>Frame a picture using pattern and draw three objects.</td></tr>
<tr><td>Day 2</td><td>Uses different sized and coloured circles to make simple patterns. Discuss patterns (repetition, differences, similarities).</td><td>Activity 2</td><td>Fingerprint counting.</td></tr>
<tr><td rowspan="2">Day 3</td><td rowspan="2">Body percussion patterns and problem solving.</td><td>Activity 3</td><td>Pattern cards using counters and sticks.</td></tr>
<tr><td>Activity 4</td><td>Template with playdough – make 3.</td></tr>
<tr><td>Day 4</td><td>Using big and small circles and objects to make simple patterns. Identify patterns in classroom.</td><td></td><td></td></tr>
<tr><td>Day 5</td><td>Problem solving 1–3. Making groups the same.</td><td></td><td></td></tr>
<tr><td colspan="5" align="center">Week 7</td></tr>
<tr><td colspan="5">CONTENT AREA: SPACE and SHAPE (GEOMETRY)</td></tr>
<tr><td colspan="5">TOPIC: Recognise, identify and name 2-D shapes: triangle; describe and compare 3-D objects and 2-D shapes: triangles; sort 2-D shapes; figure ground; symmetry
INTRODUCE NEW KNOWLEDGE: Triangle; figure ground; position (in front and behind); oral counting 1–10
PRACTISE: Oral counting 1–10, sequencing number 1–3, counting objects 1–5, reinforce number concept 1–3, what number before/after, circle, square, symmetry, big and small</td></tr>
<tr><td colspan="2">Whole class activities</td><td>Teacher-guided activity</td><td colspan="2">Workstation activities</td></tr>
<tr><td>Day 1</td><td>Introduce triangle and its properties.</td><td rowspan="5">Oral counting.
Touch and count using number towers 1–3 (Unifix blocks).
One-to-one correspondence.
Properties of a triangle (2-D).
Sort and compare 3-D objects and 2-D shapes into two groups, one of triangles and one not triangles.</td><td>Activity 1</td><td>Triangle activity – cut and decorate four triangles.</td></tr>
<tr><td>Day 2</td><td>Identify triangle shapes in Poster Book, problem solving.</td><td>Activity 2</td><td>Butterfly prints – symmetry.</td></tr>
<tr><td>Day 3</td><td>In front of and behind; midline crossing.</td><td>Activity 3</td><td>Shape person – use pre-cut shapes.</td></tr>
<tr><td>Day 4</td><td>Compare biggest and smallest. Bigger and smaller.</td><td>Activity 4</td><td>Shape puzzles – (minimum six pieces).</td></tr>
<tr><td>Day 5</td><td>Symmetry.</td><td></td><td></td></tr>
</table>

SENGETO A: ITHEMU 1 SIBUTSETELO SALOKUCUKETFWE SELIVIKI (EMAVIKI 6–9)

Ithemu 1: Luhlelolisu Lwemsebenti

Liviki 6			
UMKHAKHA WALOKUCUKETFWE: EMAPHETHINI, EMAFANGSHINI ne-ALJEBRA			
SIHLOKO: Emaphethini ejomethri **YETFULA LWATI LOLUSHA:** Khomba emaphethini, kopa emaphethini, cedzela emaphethini, yetfula inombolo 3, kulandzelanisa tinombolo 1–3. Kwakha emacembu afanane. **TETAYETE:** Kubala ngemlomo 1–5, kubala ema-objekthi 1–5, imicondvo yetinombolo 1 na-2, indingilizi, sikwele, khulu ncane, kuya embili nekuya emuva			
Imisebenti yeliklasi lonkhe		Umsebenti loholwa nguthishela	Imisebenti yendzawo yekusebentela
Lilanga 1	Yetfula inombolo 3 indzaba yefrizi yetinombolo.	Dlala imidlalo yekuhamba (kunyakata) usebentisa timphawu 1 na-2. Matanisa uphindze futsi uhlelembise titfombe temacashati/emakhadi etinombolo 1–3. Emaphethini lalula usebentisa tibali. Khulumisanani ngephethini, sebentisa tibali kukopa emaphethini. Kusombulula tinkinga 1–3. Kwakha emacembu afanane.	**Umsebenti 1**	Yakha ifreyimu yesitfombe usebentisa emaphethini bese futsi udvweba lama-objekthi lamatsatfu.
Lilanga 2	Usebentisa tindingilizi letinemasayizi nemibala lehlukene kwakha emaphethini lalula. Khulumisanani ngemaphethini (kuphindza, imehluko, kufanana).		**Umsebenti 2** **Umsebenti 3** **Umsebenti 4**	Kubala tinyatseliso teminwe. Emaphethini usebentisa tibali netintsi. Ithemplethi ngenhlama yekudlala – yakha 3.
Lilanga 3	Emaphethini ekwenta umsindvo ngemtimba kanye nekusombulula tinkinga.			
Lilanga 4	Usebentisa tindingilizi letinkhulu naletincane nema-objekthi kwakha emaphethini lalula. Khomba emaphethini eklasini.			
Lilanga 5	Kusombulula tinkinga 1–3. Kwakha emacembu afanane.			
Liviki 7			
UMKHAKHA WALOKUCUKETFWE: SIKHALA naBUNJWA (IJOMETHRI)			
SIHLOKO: Kubona, kukhomba kanye nekusho bobunjwa lababo-2-D; calantsatfu; chaza uphindze ucatsanise ema-objekthi langu-3-D nabobunjwa labangu-2-D: kucondza kuma kwentfo esikhundleni sayo isimethri **YETFULA LWATI LOLUSHA:** Calantsatfu; kuma kwentfo esikhundleni; sikhundla (ngembili nangemuva); Kubala ngemlomo 1–10 **TETAYETE:** Kubala ngemlomo 1–10,kulandzelanisa 1–3, kubala ema-objekthi 1–5, gcizelela imicondvo yetinombolo 1–3, nguyiphi inombolo lengembili/ngemuva, indingilizi, sikwele, isimethri, khulu nancane			
Imisebenti yeliklasi lonkhe		Umsebenti loholwa nguthishela	Imisebenti yendzawo yekusebentela
Lilanga 1	Yetfula bocalantsatfu nemaphrophathi abo.	Kubala ngemlomo. Tsintsa bese uyabala usebentisa tinombolo 1–3 (Emabhlokhi e Yunifiksi). Kucondzana kwakunye nakunye. Emaphrophathi acalantsatfu (2-D). Hlunga bese ucatsanisa ema-objekthi nabobunjwa labangu-3-D nabobunjwa labangu-2D ngemacembu, linye libe labocalantsatfu bese kutsi leli lelinye lelingasilo labocalantsatfu.	**Umsebenti 1**	Umsebenti wabocalantsatfu – sika uphindze uhlobise labocalantsatfu labane.
Lilanga 2	Khomba bobunjwa lababocalantsatfu ku*Ncwadzi Yemaphosta*, kusombulula tinkinga.		**Umsebenti 2** **Umsebenti 3**	Imidvwebo yemavivane – isimethri. Bunjwa longumuntfu – sebentisa bobunjwa labasikwe phambilini.
Lilanga 3	Ngembili nangemuva; kweca umugcamkhatsi.			
Lilanga 4	Catsanisa lokukhulu kakhulu nalokuncane kakhulu. Lokukhulu kakhudlwana nalokuncane kakhudlwana.		**Umsebenti 4**	Emaphazili abobunjwa – (linaninane tincetu letisitfupha).
Lilanga 5	Isimethri.			

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Week 8				
CONTENT AREA: MEASUREMENT				
TOPIC: Time: day and night; Length: compare and order objects to describe height **INTRODUCE NEW KNOWLEDGE:** Sequencing day and night, light and dark; height chart; position (on, under, on top, below, next to, between); counting backwards 5–1 **PRACTISE:** Oral counting 1–10, counting backwards from 5, sequencing numbers 1–3, counting objects 1–5, reinforce number concept 1–3, patterns				
Whole class activities		**Teacher-guided activity**	**Workstation activities**	
Day 1	Day and night; light and dark.	Routine introduction. Day and night; dark and light activities: - blanket - activity cards. Day and night story and sequencing. Position (on, under, below, on top, next to, between). Pattern (animals). Height chart.	**Activity 1** **Activity 2** **Activity 3** **Activity 4**	Day and night activity – cutting out pictures. Draw from shortest to tallest. Paste shapes from biggest to smallest. Day/night matching cards.
Day 2	Introduce height chart; position vocabulary.			
Day 3	Height chart. Sorting day and night everyday objects.			
Day 4	Poster – Day and night. Positional vocabulary: on, under, below and on top.			
Day 5	Compare heights. Movement-positions.			
Week 9				
CONTENT AREA: NUMBERS, OPERATIONS and RELATIONSHIPS				
TOPIC: Describe, order and compare numbers; estimation; problem-solving techniques; using numbers in familiar contexts; position **INTRODUCE NEW KNOWLEDGE:** Estimation, numbers in familiar contexts, one more, one less, position (up/down) **PRACTISE:** Oral counting 1–10, counting backwards from 5, sequencing numbers 1–3, counting objects 1–5, number concept 1–3, problem-solving techniques. Circle, square and triangle.				
Whole class activities		**Teacher-guided activity**	**Workstation activities**	
Day 1	Describe and order numbers 1–3.	Oral counting. One-to-one correspondence. Describe and order numbers 1–3. Estimation. Shake and break.	**Activity 1** **Activity 2** **Activity 3** **Activity 4**	Playdough making 1–3 objects. Draw pictures 1–3 in shapes. Pasting. Picture with three stars, two trees, one moon. Puzzles (minimum six piece).
Day 2	Matching number representations 1–3. Estimation.			
Day 3	Counting – one more/one less. Position: up and down.			
Day 4	Problem solving (more/less). Poster 1.			
Day 5	Using number in familiar context: How old are you?			

Liviki 8		
UMKHAKHA WALOKUCUKETFWE: KULINGANISA		
SIHLOKO: **Sikhatsi: imini nebusuku; Budze: catsanisa uphindze futsi uhlelembise ema-objekthi kute uchaze budzekuphakama**		
YETFULA LWATI LOLUSHA: Kulandzelanisa imini nebusuku, kukhanya nebumnyama; lishadi lebudzekuphakama; sikhundla (ngetulu, ngaphasi, etulu kwe, ngaphasi, eceleni kwe, emkhatsini); kubala uye emuva 5–1		
TETAYETE: Kubala ngemlomo 1–10, kubala uye emuva kusuka ku-5, kulandzelanisa tinombolo 1–3, kubala ema-objekthi 1–5, kugcizelela umcondvo wetinombolo 1–3, emaphethini		
Imisebenti yeliklasi lonkhe	**Umsebenti loholwa nguthishela**	**Imisebenti yendzawo yekusebentela**
Lilanga 1 Imini nebusuku; kukhanya nebumnyama	Kwetfula inhlalayenta.	**Umsebenti 1** Umsebenti wemini nebusuku – kusika ukhiphe titfombe.
Lilanga 2 Ngenisa lishadi lebudzekuphakama; silulumagama sesikhundla.	Imisebenti yemini nebusuku; bumnyama nekukhanya:	**Umsebenti 2** Dvweba ucale ngalomfishane kakhulu uye kulomudze kakhulu.
Lilanga 3 Lishadi lebudzekuphakama. Kuhlunga ema-objekthi emalanga onkhe emini nebusuku.	- ingubo yekulala - emakhadi emsebenti.	**Umsebenti 3** Namatsisela bobunjwa ucale ngalomkhulu kakhulu uye kulomncane kakhulu.
Lilanga 4 Iphosta – Imini nebusuku. Silulumagama sesikhundla: etulu, ngaphasi, ngentasi kanye nangetulu.	Indzaba yemini nebusuku kanye nekulandzelanisa. Sikhundla (etulu, ngaphasi, ngentasi, ngetulu, eceleni kwe, emkhatsini).	**Umsebenti 4** Emakhadi emini/busuku.
Lilanga 5 Catsanisa budzekuphakama. Timo tekuhamba.	Iphethini (tilwane). Lishadi lebudzekuphakama.	
Liviki 9		
UMKHAKHA WALOKUCUKETFWE: TINOMBOLO, EMA-0PHARESHINI neBUDLELWANE		
SIHLOKO: Chaza, hlelembisa bese ucatsanisa tinombolo; kulinganisa; emasu ekusombulula tinombolo etimeni letetayelekile; sikhundla		
YETFULA LWATI LOLUSHA: Kulinganisela, tinombolo etimeni letetayelekile, kunyenti ngakunye, kuncane ngakunye, sikhunndla (etulu/phasi)		
TETAYETE: Kubala 1–10, kubala uye emuva kusuka ku- 5, kulandzelanisa tinombolo 1–3, kubala ema-objekthi 1–5, umcondvo wetinombolo 1–3, emasu ekusombulula tinombolo. Indingilizi, sikwele kanye nacalanntfu.		
Imisebenti yeliklasi lonkhe	**Umsebenti loholwa nguthishela**	**Imisebenti yendzawo yekusebentela**
Lilanga 1 Chaza uphindze uhlelembise tinombolo 1–3.	Kubala ngemlomo.	**Umsebenti 1** Inhlama yekudlala yekwakha ema-objekthi 1–3.
Lilanga 2 Kumatanisa kuphindzeka kwetinombolo 1–3. Kulinganisela.	Kucondzana kwakunye nakunye. Chaza uphindze uhlelembise tinombolo 1–3.	**Umsebenti 2** Dvweba titfombe 1–3 ngabobunjwa.
Lilanga 3 Kubala – kunyenti ngakunye/kuncane ngakunye. Sikhundla: etulu naphasi.	Kulinganisela Khuhlutisa uphindze wehlukanise.	**Umsebenti 3** Kunamatsisela. Sitfombe lesinetinkhanyeti letintsatfu, tihlahla letimbili, inyanga yinye.
Lilanga 4 Kusombulula tinkinga (nyenti nga/kuncane). Iphosta 1.		**Umsebenti 4** Emaphazili (lizingancane letincetu letisitfupha).
Lilanga 5 Kusebentisa inombolo etimeni letetayelekile: Uneminyaka lemingakhi budzala?		

Workshop 3 Evaluation Form

1. Did the workshop meet your expectations?

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2. What did you learn in this workshop that helped you the most?

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3. Was there anything that you did not like or had difficulty understanding?

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4. How will you apply what you have learnt in your Grade R classroom?

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5. Do you have any suggestions for improving further workshops?

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Lifomu Lekuhlolisisa Umhlanganosikolo 3

1. Lomhlanganosikolo ufinyelele yini ezingeni lebewulilindzele?

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2. Yini lokufundzile kulomhlanganosikolo lokubalulekile lokukusite kakhulu?

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3. Kukhona yini longakakutsandzi noma lokutfole kulukhuni?

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4. Utakusebentisa kanjani eklasini leLibanga R loku lokufundzile?

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5. Ikhona yini imibono lonayo yekwenta kancono imihlanganosikolo lechubekako?

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