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IsiNdebele/English

Ihlelo lokuThuthukisa iimBalo zeGreyidi R Grade R Mathematics Improvement Programme



Isifundobandulo 3 • Workshop 3

INcwadi yokuSebenzela yomHlanganyeli • Participant's Workbook

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The **Schools Development Unit (SDU)** at the **University of Cape Town (UCT)** is the mathematics technical partner to the Grade R Mathematics and Language Improvement Project. The SDU is a unit within UCT's School of Education that focuses on teachers' professional development in Mathematics, Science, Literacy/Language and Life Skills from Grade R to Grade 12. The SDU offers teacher qualifications and approved UCT short courses, school-based work, materials development and research to support teaching and learning in all South African contexts.

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

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- Iinkhulu zePhiko labaNgophisi leKharikhyulamu, iPhiko labaNgophisi laboTitjhere bezeFundo nePhiko labaNgophisi leFundo eKhethekileko yomNyango wezeFundo weGauteng, ekutjhugululweni kwemethiriyali yethu.
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Contents

Overview

Purpose	page 6
Learning outcomes	page 6
Workshop content	page 6

Workshop content

Opening and reflection	page 8
Session 1: Patterns, Functions and Algebra	page 10
Session 2: Space and Shape (Geometry)	page 18
Session 3: Measurement	page 24
Session 4: Numbers, Operations and Relationships	page 32
Session 5: Planning for teaching	page 36
Appendix A: Term 1 Weekly Content Summary (Weeks 6–9)	page 42
Workshop 3 Evaluation Form.....	page 46

Okumumethweko

Isirhunyezo

Umnqopho	ikhasi 7
Imiphumela yokufunda	ikhasi 7
Okumumethweko kwesifundobandulo	ikhasi 7

Okumumethweko kwesifundobandulo

Ukuvula nokuzindla	ikhasi 9
Isetjhini 1: AmaPhetheni, amaFanktjhini ne-Aljibhra	ikhasi 11
Isetjhini 2: IsiKhala neBumbeko (Ijijomethri)	ikhasi 19
Isetjhini 3: Ukumeda	ikhasi 25
Isetjhini 4: Inomboro, ama-Opharetjhini noBudlelwana	ikhasi 33
Isetjhini 5: Ukuhlelela ukufundisa	ikhasi 37

Isithasiselo A: Ithemu 1 Isirhunyezo sokuMumethweko kwaQobe yiVeke

(IimVeke 6-9)	ikhasi 43
Iforomo lokuHlunga lesiFundobandulo 3	ikhasi 47

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)

Isirhunyezo

Umnqopho

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

Umnqopho wesifundobandulwesi kusiza abotitjhere ukusebenzisa iHlelo leemBalo ngematlasinabo. Abahlanganyeli bazakuqinisa ukuzwisisa kwabo iinGaba zokuMumethweko ze-CAPS ezifundiswe eemVekeni 6–9 zeThemu 1 nokujayeza amakghono wokungenelela ekufundeni iimbalo.

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

Imiphumela yokufunda

- ◆ Ukuzindla ngokusetjenziswa kweThemu 1 iimVeke 3–5
- ◆ Ukusebenzisa imithethokambiso yeHlelo leemBalo ekuhleleni kwangeveke
- ◆ Ukuhlola amano wokusekela ukufundisa iimbalo kwaGreyidi R
- ◆ Ukuzibandakanya nokumumethweko kweHlelo leemBalo kweThemu 1 iimVeke 6–9 (AmaPhetheni, amaFanktjhini ne-Aljibhra; IsiKhala neBumbeko (Ijijomethri); Ukumeda; Iinomboro, ama-Opharetjhini noBudlelwana)
- ◆ Ukuthoma ukuzwisisa bonyana amazinga wamakareko namakghono ahlukileko wabafundi akhambisana njani nokufunda nokufundisa

Okumumethweko kwesifundobandulo

- ◆ Ukuvula nokuzindla (I-iri 1)
 - ◆ Isetjhini 1: AmaPhetheni, amaFanktjhini ne-Aljibhra (I-iri 1)
- ITIYE
- ◆ Isetjhini 2: IsiKhala neBumbeko (Ijijomethri) (I-iri 1)
 - ◆ Isetjhini 3: Ukumeda (I-iri 1)
- ISIDLO SEMINI
- ◆ Isetjhini 4: Iinomboro, ama-Opharetjhini noBudlelwana (I-iri 1)
 - ◆ Isetjhini 5: Ukuhlelela ukufundisa (I-iri 1)

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

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.

Ukuvula nokuzindla

I-iri 1

Zindla ngokusetjenziswa kweHlelo leemBalo ehlelweni lakho langamalanga bese uqedelela umsebenzi olandelako esiqhemeni sakho.



Umsebenzi 1

1. Hlathulula ngeragelophambili lakho ekusebenziseni iimVeke 3–5 kunye no*Msebenzi obuyiselwa esikolweni wesiFundobandulo* 2.
2. Yabelana ngesithombe sakho sokunqophana nesiKhala neBumbeko (I*Iiyomethri*) endaweni yeembalo.
3. Ukurekhode njani okutjhejileko ngomfundi ngamunye ngesikhathi somsebenzi ohlahlwa ngutitjhere?
4. Ngimiphi imithethokambiso oyitjheje khulu ngetlasinakho?



Ividiyo 1

Bukela ividiyo yokobana utitjhere uwusebenzisa njani umlolozelo ukujayeza ukubala nokurarulula imiraro yegama.

Hlathulula bonyana ukulawule njani lokhu nezinye iimfundo ezifake imilolozelo emisebenzini yokubala.

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?

Understanding patterns

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.

Isetjhini 1: AmaPhetheni, amaFanktjhini ne-Aljibhra

I-iri 1

Isifundobandulo lesi siqophe ukufundisa okumumethweko kweHlelo leemBalo okulandelako: Ithemu 1 iimVeke 6–9. Isetjhini le inqophene neThemu 1 iVeke 6: AmaPhetheni, amaFanktjhini ne-Aljibhra.

Ithemu 1 Isirhunyezo sokumumethweko: AmaPhetheni, amaFanktjhini ne-Aljibhra

Qala isiGaba sokuMumethweko samaPhetheni, amaFanktjhini ne-Aljibhra ekhasini 125 *UmHlahlandlela womQondo*.



Umsebenzi 2

Esiqhemeni sakho, khulumisanani:

1. Ngimiphi imiqondo eyenziwa kuThemu 1?

2. Ngimuphi umehluko phakathi kokumumethweko nokumumethweko kwe-CAPS?

Ukuzwisisa amaphetheni

Ukuthuthukisa ukuzwisisa amaphetheni yingcenywe yeembalo eqakathekileko.

Amaphetheni asibhodile nabantwana bahlangana namaphetheni amanengi epilweni yabo yangamalanga emakhaya nesikolweni.

Cabanga ngokuzwisisa kwakho isiGaba sokuMumethweko: AmaPhetheni, amaFanktjhini ne-Aljibhra bese uqedelela Umsebenzi 3 nesiqhema sakho.



Activity 3

In your group, discuss:

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

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

- ◆ What patterns do you see?

- ◆ What is the pattern?

- ◆ 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

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.



Umsebenzi 3

Esiqhemeni sakho, khulumisanani:

1. Mihlobo enjani yamaphetheni abafundi bakwaGreyidi R abangayitjheja emaphilweni wabo wangamalanga?

2. Qala iPhosta 7 ku*Ncwadi yamaPhosta*.

◆ Ngimaphi amaphetheni owabonako?

◆ Khuyini iphetheni?

◆ Ungayibuyelela iphetheni? Hlathulula.

Iphetheni itlhadhlula ilandelano elihlelekileko lezinto, leminyakazo nofana lezehlakalo ezibuyeleleka ngendlela engabonelwa ngaphambili.

Ilandelano lihlelo elithileko lapho izinto, iminyakazo nofana izehlakalo zilandelana ngalo.

Ukufanisa amaphetheni

Kuphetheni ejayelekileko, singabona bonyana amalunga abuyelelwe njani elandelanweni. Singabonela phambili godu irhemo nelandelano lamalunga nokobana azakubuyelelwa njani ukwakha iphetheni. Kuphetheni engenzasi siyabona bonyana indulungu nesikwere zibuyelelwe begodu singabonela phambili bona ngiliphi ibumbeko elizakulandela elandelanweni.



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.

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?



Umsebenzi 4



1. Ngiliphi ibumbeko lokuthoma?

2. Ngiliphi ibumbeko elilandelako?

3. Ngiliphi ibumbeko ocabanga bonyana lizakuza ngemva kwesikwere sokugcina?

4. Ungayinabisa njani iphetheni le?

Amaphetheni abuyelelako enziwa lilandelano lamalunga elibuyelelweko, isib. amabumbeko, imibala, amatjhada, izinto, imisikinyeko.

Emsebenzini olandelako, umkghonakalisi uzanikhombisa ilandelano lamabumbeko. Nizakusebenzisa amabhlogo we-athribhuthi aseentafuleni zenu ukukopa ilandelano leli bese nikhulumisana ngokobana nizakunabisa njani lokhu ukwakha iphetheni.



Umsebenzi 5

1. Khuyini iphetheni?

2. Ngiyiphi ingcanye yelandelano ebuyelelako?

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.

Yethula abafundi kumaphetheni athoma nge-athribhuthi linye kwaphela elihlukileko, isib. ibumbeko, bese unikela ama-ayithemu aneleko elandelanweni kobana abafundi bangazitholela bonyana khuyini iphetheni (ingcenywe ebuyelelako elandelwaneni).

Kuqakathekile bonyana abotitjhere banikele ngerherho lamathuba wokobana abafundi bafanise, bakope begodu bakhe imihlobo ehlukeleko yamaphetheni ngokusebenzisa amatjhada, izenzo, izinto neentombe.



Ividiyo 2

Bukelani ividiyo katitjhere lokha nakahlela imisebenzi enikela amathuba wokobana abafundi bakhe begodu bakhulumisane ngamaphetheni.

Yeleda bonyana utitjhere ubahlahla njani abafundi ngemibuzo nokubakhuthaza ukwakha amaphetheni. Tlola ilwazimagama lelo yena nabafundi abalisebenzisako ngesikhathi semisebenzi le.

Qala amakhasi 160–173 wom*Hlahlandlela womQondo* ukufunda ngokunabileko mayelana nokufundisa amaPhetheni, amaFanktjhini ne-Aljibhra kwaGreyidi R. Godu uzakuthola irhelo lemibuzo nelwazimagama elifaneleko lesiGaba sokuMumethweko lesi.

Umthethokambiso wezinga uti abafundi baseendaweni ezihlukileko zokuthoma kwaGreyidi R. Ilwazi langaphambili lomfundi ngamunye liphuzu lokuthoma lalokho abazakufunda. Bangasebenzisa lokho esele bakwazi ukufunda imiqondo namakghono amatjha.

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.

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

Identifying 2-dimensional shapes (triangles)

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.

Isetjhini 2: IsiKhala neBumbeko (Ijyomethri)

I-iri-1

Umnqopho weThemu 1 iVeke 7 isiKhala neBumbeko (Ijyomethri). KusiFundobandulo 2, sikhulumisene ngezinto ezibusontathu namabumbeko abusombili nokumumethweko kweemVeke 3–5 okufanele kusetjenziswe ngetlasini.

Ithemu 1 Isirhunyezo sokumumethweko: IsiKhala neBumbeko (Ijyomethri)



Umsebenzi 6

Qala isiGaba sokuMumethweko kwesiKhala neBumbeko (Ijyomethri) amakhasi 126–131 kumHlahlandlela womQondo. Uzakubona bonyana iindulungu, iinkwere naboncantathu bathulwe ku-CAPS ngeThemu 1 bese aboncamane bathulwe ngeThemu 4. IHlelo leemBalo liphakamisa bonyana aboncamane bathulwe ngokungakanaki ngeThemu 1.

1. Lokha nawufundisa iinkwere ukhe wabona bonyana abafundi baphambanisa iinkwere naboncamane? Nikela iinzathu zokusekela ipendulo yakho.

2. Aboncamane bathulwe njani ngeVeke 3 yeHlelo leemBalo?

Ukufanisa amabumbeko abobusombili (2-D) (aboncantathu)

KwaGreyidi R abafundi bayakhumbula, bafanise begodu batjho amabumbeko abusombili (2-D): iindulungu, iinkwere, aboncantathu naboncamane. IHlelo leemBalo liphakamisa bonyana abafundi abakhuthazwe ukutlhadlhula ngamatshwayo wamabumbeko lawa, isib. imida enqophileko nofana egobeneko, inani lemida namakhona.

Abafundi basebenzisa ilwazi labo lamabumbeko elitjha begodu bebagandelela ukufunda lokhu emisebenzini yesiqhema esincani esizijameleko.



Video 3

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.

Activity Guide: 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?

◆ How do you know it is a triangle?

◆ How many sides does it have?

◆ How many corners does it have?

◆ How many lines?

◆ Can you see any other triangles?

◆ What other shapes can you see?

◆ What is the same about these two shapes?

◆ What is different about these two shapes



Ividiyo 3

Bukelani ividiyo katitjhere azisa abafundi ngoncantathu.

Yeleva bonyana utitjhere ubakhuthaza njani abafundi bonyana batlhadlhule ngamatshwayo kancantathu.

UmHlahlandlela wemiSebenzi: Ithemu 1 unikela amathuba amanengi ithemu yoke kobana abotitjhere basebenzise imibuzo evulekileko. *INcwadi yamaPhosta* isetjenziswa ngesikhathi semisebenzi yetlasi yoke nemisebenzi yesiqhema esincani ehlahlwa ngutitjhere ukukhuthaza abafundi ukuphandlusela imibono yabo nokurarulula imiraro.

Umsebenzi 7, nizakukhulumisana ngephosta bese nicoca ngokobana imibuzo ebuziweko imibuzo 'evulekileko' nofana 'evalekileko'.



Umsebenzi 7

1. Qala iPhosta 8 bese uphendula imibuzo elandelako.

◆ Bangaki aboncantathu obabonako?

◆ Wazi ngani bonyana nguncantathu?

◆ Unamahlangothi amangaki?

◆ Unamakhona amangaki?

◆ Inemida emingaki?

◆ Bakhona abanye aboncantathu obabonako?

◆ Ngiwaphi amanye amabumbeko owabonako?

◆ Khuyini okufanako ngamabumbeko amabili la?

◆ Khuyini umehluko ngamabumbeko amabili la?

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

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.

2. Ngimiphi imibuzo evulekileko naleyo evalekileko kilemibuzo engehla?

Umthethokambiso wokuhlahla ukhuthaza abotitjhere nabafundi bonyana basebenzisane ukurarulula imiraro ngokubuza imibuzo efanelekileko.

- ◆ **Imibuzo evalekileko** mibuzo enependulo ekhawulelweko 'iye' nofana u-'awa'. Imibuzo evalekileko ingasiza ukuthola bonyana khuyini abafundi abakwaziko, njengokuthi 'Ngiliphi ibumbeko elinguncantathu?', 'Linombala onjani?'
- ◆ **Imibuzo evulekileko** inekghonakalo yokuba neependulo ezingaphezu kweyodwa, ihlahlambisa ukucabanga begodu ikhuthaza abafundi ukuphandlusela imibono yabo lokha nabararulula imiraro.

Akusibo boke abafundi abazakubamba umqondo nofana bafunde ilimi leembalo ngesikhathi esifanako (**umthethokambiso wezinga**).

Ilwazimagama leembalo

Lokha abafundi nabaphenyako, begodu batlhadhule ngamabumbeko nezinto, basebenzisa ilimi langamalanga njengokuthi 'sipara', 'butjhelelezi' no 'tlobo'. Abotitjhere bangathula ilwazimagama leembalo ukujamiselela ilimi langamalanga, isibonelo: imida enqophileko, imida egobeneko, amakhona, amahlangothi. Sikhuluma nangokuthi into yide kangangani, ibanzi kangangani begodu siqale nokuphakama kwento.

Qala amakhasi 190–193 wom*Hlahlandlela womQondo* ukufunda ngokunabileko mayelana nokubuza imibuzo ephathelene nokufundisa nokufunda ngemiqondo yesiKhala noBumbeko (Ijijomethri). Godu funda ikhasi 193 ngokunabileko ngelwazimagama lesiKhala neBumbeko (Ijijomethri) kwaGreyidi 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?

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?

Isetjhini 3: Ukumeda

I-iri 1

Ukumeda kumnqopho weThemu 1 iVeke 8: isikhathi nobude.

Ithemu 1 Isirhunyezo sokumumethweko: Ukumeda



Umsebenzi 8

Qala isiGaba sokuMumethweko sokuMeda emakhasini 132–135 *womHlahlandlela womQondo*. Esiqhemeni sakho, buyekezani:

1. Ngimiphi imiqondo efundiswe kuThemu 1?

2. Khuyini umehluko hlangana nokumumethweko lokhu nokumumethweko kwe-CAPS?

Khuyini ukumeda?

Umsebenzi 9 sizakukhulumisana ngombuzo 'Khuyini ukumeda?'.



Umsebenzi 9

Qala isithombe esingenzasi bese uphendula umbuzo.



Ngubani omkhulu khulu?

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.

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

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.

Ukumeda kuphatelene nokuthola bonyana 'kungangani' okukhona kwento, isib.:

- ◆ ubude bento
- ◆ into iphatha kangangani
- ◆ ubungako bento
- ◆ kuthatha isikhathi esingangani ukwenza into.

Nasifuna ukumeda, kufanele sithathe isiqunto sokobana ngiliphi i-athribhuthi (itshwayo/umukghwa) esifuna ukulimeda, isib. ubude, ubudisi, isikhathi. Sisebenzisa amagama alandelako ukuthadhlula ngokumeda: -de, -budisi, -dadlana.

Kufanele sisebenzise amayunithi ukumeda. Lokhu kungaba mayunithi angakavami nofana amayunithi avamileko

- ◆ **Amayunithi wokumeda angakavami** afaka hlangana izandla, iinyawo, amakhrayoni, inqunjwana zentambo, iingoqwana namabhlogo.
- ◆ **Amayunithi wokumeda avamileko** afaka hlangana amalitha, amamilitha, amakhilogremu, amagremu, amamitha, ama-iri, imizuzu, njll.

KwaGreyidi R abafundi bameda ngokungakahleki begodu basebenzisa **amayunithi angakavami** ukumeda isikhathi, ubude, ubudisi, umthamo nevolumu.

Ukumadanisa bunqopha

Ukumeda kwaGreyidi R kufaka hlangana ukumadanisa 'bunqopha' i-athribhuthi yento nento enye. Isibonelo, ukumeda ubude bekhrayoni nelinye ikhrayoni nofana ukumadanisa ukuphakama kwabafundi ababili abafulatheleneko.

Tjhejani umkghonakalisi nakameda isiqhema sabahlanganyeli bese niqedelela Umsebenzi 10 esiqhemeni senu.



Umsebenzi 10

Qala amakhasi 194–207 wom*Hlahlandlela womQondo* ukufunda ngokunabileko mayelana nokumeda namakhasi 136–149 wom*Hlahlandlela wemiSebenzi: Ithemu 1* ngaphambi kokuphendula imibuzo engenzasi.

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

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

Time

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?

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

1. Ngiyiphi iyunithi yokumeda engakavami esetjenzisiweko ukumeda ukuphakama kwabahlanganyeli?

2. Ngiwaphi amanye amayunithi wokumeda angakavami angasetjenziswa ukumeda ukuphakama kwabahlanganyeli?

Isikhathi

Isikhathi simqondo obudisi ongabonakaliko kobana abafundi bawuzwisise. Abafundi kufanele bezwisise bonyana isikhathi sidlula njani emaphilweni wabo, ngalokho abotitjhere kufanele bahlobanise isikhathi namalemuko wabafundi wangamalanga nezehlakalo ezijayelekileko kibo.



Umsebenzi 11

Buyela uqale uThemu 1 iVeke 8 *kumHlahlandlela wemiSebenzi: Ithemu 1* bese ukhulumisana nomlingani ngokobana isikhathi sifundiswa njani eemfundweni lezi. Yabelana ngemibono yakho mayelana nokulandelako.

1. Abotitjhere/abasebenzi bakwaGreyidi R bangabasiza njani abafundi ukuzwisisa ngokunabileko mayelana nomqondo we:

- ◆ ilanga nobusuku?
 - ◆ izolo, namhlanje nakusasa?
 - ◆ izinto zithatha isikhathi esingangani?
 - ◆ ukulandelana kwesikhathi?
-
-
-
-
-
-

2. Ungayisebenzisa njani imisebenzi yakho yehlelo langamalanga ukufundisa abafundi ngomqondo wesikhathi?

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

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.

3. Kubayini ilwazimagama liqakathekile ekuzwisiseni umqondo wesikhathi?

Qala amakhasi 194–207 wom*Hlahlandlela womQondo* ukufunda ngokunabileko mayelana nokumeda nesikhathi. Qala ikhasi 211 lom*Hlahlandlela womQondo* ukufunda ngokunabileko ngokubuza imibuzo ephathelene nokufundisa nokufunda ngokumeda kwaGreyidi R.

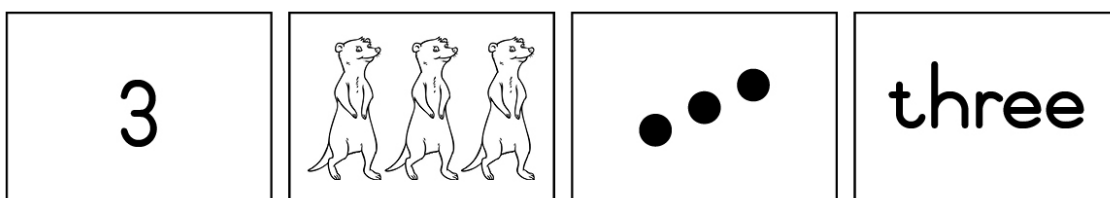
Session 4: Numbers, Operations and Relationships

1 hour

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:

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.

Term 1 Content overview: Numbers, Operations and Relationships

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.

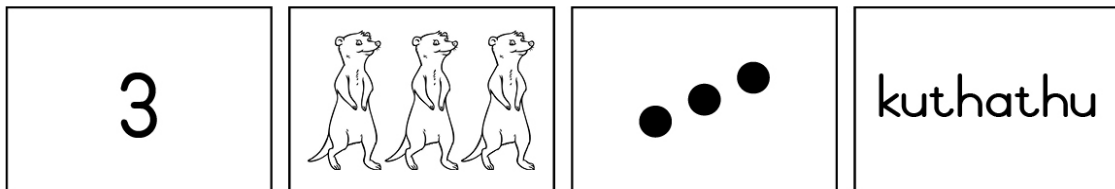
Isetjhini 4: Inomboro, ama-Opharetjhini noBudlelwana

I-iri 1

KuSifundobandulo 2, waziswa umqondo wokubala nokujamiselela inomboro. Kilesisifundobandulo sizakubona bonyana imibono efanako iragela njani phambili iVeke 6 njengombana inomboro 3 yethulwa nje. Kulandelwa ikambiso efanako njengenomborweni 1 no-2, ngokuthi:

Coca Indatjana yenomboro 3 bese uyayilingisa lokha nawakha indatjana ngeenjamiseleli zenomboro ezihlukileko ngokusebenzisa amakarada womhlobiso we*Khidi* yeenSetjenziswa:

- ◆ isilwana (isithombe)
- ◆ itshwayo lenomboro
- ◆ inomborogama
- ◆ amaqatjhazi (ukujamiselela iintlogo zomnyango).



Qala izinto bese ukhambelanisa itshwayo lenomboro (3) nenomborogama (kuthathu). NgeVeke 6, abafundi baziswa amakarada weenomboro (*IKhidi yeenSetjenziswa*). Abafundi bakhambelanisa iimbalisi namakarada wamaqatjhazi begodu bakhulumisane ngokobana u-3 wenziwe ngeqatjhazi li-1 nama-2.

Ithemu 1 Isirhunyezo sokumumethweko: Inomboro, ama-Opharetjhini noBudlelwana

IVeke 7 inqophene nesiKhala neBumbeko (Ijyomethri) lokha iVeke 8 nayinqophene nokumeda. Umnqopho weVeke 9 Ithemu 1 godu ubuyela phezu kwemiqondo yenomboro. Kilesetjhini, nizakuphenya ubudlelwano phakathi kweenomboro.



Umsebenzi 12

Qala isirhunyezo sokumumethweko kweeNomboro, ama-Opharetjhini noBudlelwana emakhasini 114–123 *womHlahlandlela womQondo*. Esiqhemeni sakho, khulumisanani ngamatshwayo alandelako wesirhunyezo sokumumethweko:

1. Khuyini Isihloko 1.4?
2. Ngiziphi iinhlokwana ezirheliswe ngaphasi kwesihloko lesi?
3. Khuyini umehluko phakathi komtloho ohlaza samkayi nonzima? Hlathulula bonyana kubayini ucabanga bona lokhu kunjalo.

Calculating

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?*

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?

2. What questions did the facilitator use that highlighted addition and subtraction?

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

Ukubala

KwaGreyidi R abafundi abenzi ama-opharetjhini weenomboro anjengokuhlanganisa nokukhupha, ukubuyabuyelela nokuhlukanisa. Imiqondo le yakhiwa kabuthaka ngokuphenya nangokurarulula imiraro. Isibonelo: *Nginamahabhula amathathu. Ngidla linye. Nginamahabhula amangaki aseleko?*

Abafundi kufanele bezwisise ubudlelwana phakathi kweenomboro. Imisebenzi efaka ukuphula nokwakha iinomboro isiza abafundi ukuzwisisa ubudlelwana phakathi kweenomboro nobungako beenomboro. Isibonelo: *Ku-5 kwakhiwe ngaku-2 naku-3, ku-1 naku-4.*

Ukutjengisa

Bukela isitjengiso somdlalo 'khuhluzisa bese uyahlukanisa' bese nikhulumisana ngalokho enikutjhejileko esiqhemeni senu.



Umsebenzi 13

Khulumisanani ngesitjengiso eniceda ukusibukela.

1. Ngiyiphi imiqondo yenomboro abafundi abangayifunda ngokudlala umdlalo lo?

2. Ngimiphi imibuzo esetjenziswe mkghonakalisi eveze kuhle ukuhlanganisa nokukhupha?

Akusibo boke abafundi abazakutjengisa ukuzwisisa imiqondo yenomboro le ngesikhathi esifanako (**umthethokambiso wezinga**).

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?				
What are the key concepts that learners will be learning?				
What new knowledge is introduced?				
What skills are being practised?				

Isetjhini 5: Ukuhlelela ukufundisa

I-iri 1

Ithemu 1 Isirhunyezo sokuMumethweko (Iimveke 6–9)

Isithasiselo A: Ithemu 1 Isirhunyezo sokuMumethweko kwaQobe yiVeke (Iimveke 6–9) kuhlathulula umNqopho wesiGaba sokuMumethweko oqakathekileko weveke ngayinye, iinhloko ekufanele zifundiswe, ilwazi elitjha nomnqopho wokujayeza weveke ngayinye, nemisebenzi yetlasi loke ephakanyisiweko, umsebenzi weveke ohlahlwa ngutitjhere newesiqhema esizijameleko.



Umsebenzi 14

Qala isiThasiselo A: Ithemu 1 Isirhunyezo sokuMumethweko kwaQobe yiVeke (Iimveke 6–9). Phendula imibuzo.

Imibuzo	Iveke 6	Iveke 7	Iveke 8	Iveke 9
Khuyini umNqopho wesiGaba sokuMumethweko weveke?				
Ngiyiphi imiqondo eqakathekileko ezakufundwa bafundi?				
Ngiliphi ilwazi elitjha elethuliweko?				
Ngiwaphi amakghono ajayezwako?				

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.

UmHlahlandlela wemiSebenzi: Ithemu 1: Iimveke 6, 7, 8 neye-9

Qala iimVeke 6, 7, 8 neye-9 kumHlahlandlela wemiSebenzi: Ithemu 1. Qedelela Umsebenzi 15 esiqhemeni sakho.



Umsebenzi 15

Thola iimVeke 6, 7, 8 neye-9 kumHlahlandlela wemiSebenzi: Ithemu 1. Phendula imibuzo.

1. Khuyini umNqopho wesiGaba sokuMumethweko weveke ngayinye?
2. Ngiziphi iinhloko nelwazi elitjha elifundiswako iveke ngayinye?
3. Kuhlangana njani okumumethweko 'ukujayeza' neveke edlulileko?
4. Khuyini okudingako ukuzilungiselela ngaphambi kokufundisa iveke ngayinye.?
5. Funda imisebenzi yetlasi loke nemisebenzi yesiqhema esincani.
6. Khulumisanani esiqhemeni senu esincani bonyana uzakuplana bewuyihlele njani itlasi yakho emvekeni lezi ezintathu zokufundisa.



Khumbula bonyana kwaGreyidi R ukuhlola akukahleleki begodu kuragela phambili. Kufanele sitjheje abafundi ilanga loke, ngaphakathi nangaphandle kwetlasi. Itshwayo lelihlo lisikhumbuza bonyana kufanele sitjheje abafundi lokha nabamajadu, begodu kufanele silalele kuhle lokha nabakhuluma nathi nalokha nabakhuluma nabangani babo.

Ihlelo leemBalo litlanywe ngokudlhedana kweenqhema ezincani phakathi kweveke notitjhere utlhogomela isiqhema esisodwa ngokukhethekileko ngelanga, uyabukela abe alalele lokha abafundi nabenza imisebenzi ethileko. Isikhathi lesi sinikela utitjhere ithuba lokutjheja umfundi ngamunye ngokuyelela okukhulu bese ubuthelela ilwazi mayelana neragelo phambili lakhe.

Qala ibhlogo elitshetlha ekupheleni komsebenzi ohlahlwa ngutitjhere: **'Tjheja bonyana abafundi bayakwazi uku'**. Utitjhere wenza inothi lengcondo ngomfundi ngamunye bese lokha abafundi nasele bakhambile utlola phasi lokho akutjhejileko ngencwadini yokutlola okutjhejiweko enesikhala samanothi womfundi ngamunye.

Closing activities



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.

Imisebenzi yokuvala



Umsebenzi 16

Iimfundo ezifundiweko: Cabanga ngalokho okufundileko ngesikhathi sesifundobandulo bese uqedelela ithebula.

Izinto engizenzako ezisebenza kuhle	Imibono emitjha engingathanda ukuyizama



Umsebenzi obuyiselwa esikolweni

1. Funda *umHlahlandlela womQondo* amakhasi ebekukhulunywe ngawo ngesikhathi sesifundobandulwesi.
2. Sebenzisa *UmHlahlandlela wemiSebenzi: Ithemu 1* ukuplana nokusebenzisa iHlelo leemBalo iimVeke 6–9, ukufaka hlangana ukwenza indawo yeembalo enqophana nomqondo weveke ngayinye.
3. Tlola ukuhlunga kwalokho okusebenze kuhle nalokho okungakasebenzi kuhle. Letha iplani yakho nokuhlunga kwakho kusifundobandulo esilandelako.
4. Letha iimbonelo nofana iinthombe zomsebenzi owenziwe bafundi.

Ukuhlunga

Zalisa iForomo lokuHlunga.

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

Term 1: Activity Plan

Week 6				
CONTENT AREA: PATTERNS, FUNCTIONS and ALGEBRA				
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				
Whole class activities		Teacher-guided activity	Workstation activities	
Day 1	Introduce number 3 number frieze story.	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.	Activity 1	Frame a picture using pattern and draw three objects.
Day 2	Uses different sized and coloured circles to make simple patterns. Discuss patterns (repetition, differences, similarities).		Activity 2	Fingerprint counting.
Day 3	Body percussion patterns and problem solving.		Activity 3	Pattern cards using counters and sticks.
Day 4	Using big and small circles and objects to make simple patterns. Identify patterns in classroom.		Activity 4	Template with playdough – make 3.
Day 5	Problem solving 1-3. Making groups the same.			
Week 7				
CONTENT AREA: SPACE and SHAPE (GEOMETRY)				
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				
Whole class activities		Teacher-guided activity	Workstation activities	
Day 1	Introduce triangle and its properties.	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.	Activity 1	Triangle activity – cut and decorate four triangles.
Day 2	Identify triangle shapes in <i>Poster Book</i> , problem solving.		Activity 2	Butterfly prints – symmetry.
Day 3	In front of and behind; midline crossing.		Activity 3	Shape person – use pre-cut shapes.
Day 4	Compare biggest and smallest. Bigger and smaller.		Activity 4	Shape puzzles – (minimum six pieces).
Day 5	Symmetry.			

ISITHASISELO A: Ithemu 1 ISIRHUNYEZO SOKUMUMETHWEKO KWAQOBE YIEKE (IIMVEKE 6-9)

Ithemu 1: Ihlelo lomsebenzi

Iveke 6					
ISIGABA SOKUMUMETHWEKO: AMAPHETHENI, AMAFANKTJHINI ne-ALJIBHRA					
ISIHLOKO: Amaphetheni weJiyomethri					
YETHULA ILWAZI ELITJHA: Ukuanisa amaphetheni, ukukopa amaphetheni, ukuqedelela amaphetheni, ukwethula inomboro 3, ukulandelanisa iinomboro 1-3. Ukwenza iinqhema zifane.					
UKUJAYEZA: Ukubala ngomlomo 1-5, ukubala izinto 1-5, umqondo wenomboro 1 no-2, indulungu, isikwere, khulu no ncani, ukuya phambili nokuya emuva					
Imisebenzi yetlasi loke		Umsebenzi ohlahlwa ngutitjhere		Imisebenzi yesitetjhi sokusebenzela	
Ilanga 1	Yethula indatjana yomhlobiso wenomboro 3.	Dlalani umdlalo womsikinyeko ngokusebenzisa amatshwayo 1 no-2. Khambelanisa begodu urhemise wesithombe samaqatjhazi/amakarada weenomboro 1-3. Amaphetheni alula ngokusebenzisa iimbalisi. Khulumisanani ngephetheni, sebenzisa iimbalisi ukukopa iphetheni. Ukurarulula umraro 1-3. Ukwenza iinqhema zifane.		Umsebenzi 1	Yenza iphahla yesithombe ngokusebenzisa iphetheni bese udweba izinto ezintathu.
Ilanga 2	Ukusebenzisa indulungu zobukhulu nombala ohlukileko ukwenza amaphetheni alula. Khulumisanani ngamaphetheni (ukubuyelela, umehluko, ukufana).			Umsebenzi 2	Ukubala imithala yomuno.
Ilanga 3	Amaphetheni wamatjhada womzimba nokurarulula umraro.			Umsebenzi 3	Amakarada wamaphetheni ngokusebenzisa iimbalisi neengojwana.
Ilanga 4	Ukusebenzisa iindulungu nezinto ezikulu nezincani ukwenza amaphetheni alula. Ukufanisa amaphetheni ngetlasini.			Umsebenzi 4	Umfuziselo onehlama yokudlalisa – yenza u-3.
Ilanga 5	Ukurarulula umraro 1-3. Ukwenza iinqhema zifane.				
Iveke 7					
ISIGABA SOKUMUMETHWEKO: ISIKHALA NEBUMBENI (IJIYOMETHRI)					
ISIHLOKO: Khumbula, fanisa bese utjho amabumbeko we-2-D: uncantathu; thadhula bese umadanisa izinto ze-3-D namabumbeko we-2-D: aboncantathu; hlela amabumbeko we-2-D; ukubona isithombe kesinye isithombe; isimethri					
YETHULA ILWAZI ELITJHA: Uncantathu; ukubona isithombe kesinye isithombe; isikhundla (ngaphambili nangemuva); ukubala ngomlomo 1-10					
UKUJAYEZA: Ukubala ngomlomo 1-10, ukulandelanisa iinomboro 1-3, ukubala izinto 1-5, ukugandelela umqondo wenomboro 1-3, ngiyiphi inomboro eza ngaphambili/ngemva, indulungu, isikwere, isimethri, khulu no-ncani					
Imisebenzi yetlasi loke		Umsebenzi ohlahlwa ngutitjhere		Imisebenzi yesitetjhi sokusebenzela	
Ilanga 1	Yethula uncantathu namatshwayo wakhe.	Ukubala ngomlomo. Thinta bese uyabala ngokusebenzisa imibhotjhongo yenomboro 1-3 (amabhlogo we- <i>Unifix</i>). Kunye kokunye okukhambelanako. Amatshwayo kancantathu (2-D). Hlela bese umadanisa izinto ze-3-D namabumbeko we-2-D ngeenqhema ezimbili, linye laboncantathu nalinye elingasiye uncantathu.		Umsebenzi 1	Umsebenzi kancantathu – sika bese uhlobisa aboncantathu abane.
Ilanga 2	Fanisa ibumbeko likancantathu ku <i>Ncwadi yamaPhosta</i> , ukurarulula umraro.			Umsebenzi 2	Iviyaviyani eligadangisiweko – isimethri.
Ilanga 3	Ngaphambi kwe- nangemva kwe; ukweqa umuda ophakathi.			Umsebenzi 3	Ibumbeko lomuntu – sebenzisa amabumbeko asikelwe futhi.
Ilanga 4	Madanisa okukhulu khulu nokuncani khulu.			Umsebenzi 4	Amaphazili webumbeko – (iinquntu ezisithandathu ubuncani).
Ilanga 5	Isimethri.				

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.	Activity 1	Day and night activity – cutting out pictures.
Day 2	Introduce height chart; position vocabulary.	Day and night; dark and light activities:	Activity 2	Draw from shortest to tallest.
Day 3	Height chart. Sorting day and night everyday objects.	- blanket - activity cards.	Activity 3	Paste shapes from biggest to smallest.
Day 4	Poster – Day and night. Positional vocabulary: on, under, below and on top.	Day and night story and sequencing. Position (on, under, below, on top, next to, between).	Activity 4	Day/night matching cards.
Day 5	Compare heights. Movement-positions.	Pattern (animals). Height chart.		
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.	Activity 1	Playdough making 1-3 objects.
Day 2	Matching number representations 1-3. Estimation.	One-to-one correspondence. Describe and order numbers 1-3.	Activity 2	Draw pictures 1-3 in shapes.
Day 3	Counting – one more/one less. Position: up and down.	Estimation. Shake and break.	Activity 3	Pasting. Picture with three stars, two trees, one moon.
Day 4	Problem solving (more/less). Poster 1.		Activity 4	Puzzles (minimum six piece).
Day 5	Using number in familiar context: How old are you?			

Iveke 8				
ISIGABA SOKUMUMETHWEKO: UKUMEDA				
ISIHLOKO: Isikhathi: imini nobusuku; ubude: Madanisa bese urhemisa izinto ukutlahlhula ngokuphakama				
YETHULA ILWAZI ELITJHA: Ukulandelanisa imini nobusuku, ukukhanya nobumnyama; itjhadi lokuphakama; isikhundla (phezulu, ngaphasi, ngaphezulu, ngenzasi, eduze kwe-, phakathi); ukubala uye emuva 5-1				
UKUJAYEZA: Ukubala ngomlomo 1-10, ukubala uye emuva ukusuka ku-5, ukulandelanisa iinomboro 1-3, ukubala iinomboro 1-5, ukugandelela umqondo wenomboro 1-3, amaphetheni				
Imisebenzi yetlasi loke		Umsebenzi ohlahlwa ngutitjhere		Imisebenzi yesitetjhi sokusebenzela
Ilanga 1	Imini nobusuku; ukukhanya nobumnyama.	Ukwethula ikambiso.		Umsebenzi 1 Umsebenzi 2 Umsebenzi 3 Umsebenzi 4
Ilanga 2	Yethula itjhadi lokuphakama; ilwazimagama lesikhundla.	Imini nobusuku; imisebenzi yobumnyama nokukhanya:		
Ilanga 3	Itjhadi lokuphakama. Ukuhlela izinto zangamalanga zemini nobusuku.	- ingubo - amakarada womsebenzi.		
Ilanga 4	Iphosta - Imini nobusuku. Ilwazimagama lesikhundla: phezulu, ngaphasi, ngenzasi nangaphezulu.	Indatjana yemini nobusuku nokulandelanisa. Isikhundla (phezulu, ngaphasi, ngenzasi, ngaphezulu, eduze kwe, phakathi).		
Ilanga 5	Madanisa ukuphakama. Ukusikinyeka - isikhundla.	Iphetheni (iinlwana). Itjhadi lokuphakama.		
Iveke 9				
ISIGABA SOKUMUMETHWEKO: IINOMBORO, AMA-OPHARETJHINI noBUDLELWANA				
ISIHLOKO: Tlhadhlhula, rhemisa begodu umadanise iinomboro; isilinganiso; amaqhinga wokurarulula umraro; ukusebenzisa iinomboro ebujameni obujayelekileko; isikhundla				
YETHULA ILWAZI ELITJHA: Isilinganiso, iinomboro ebujameni obujayelekileko, kunye ngaphezulu, kunye ngaphasi, isikhundla (phezulu/phasi)				
UKUJAYEZA : Ukubala ngomlomo 1-10, ukubala ukubuyela emuva ukusuka ku-5, ukulandelanisa iinomboro 1-3, ukubala izinto 1-5, umqondo wenomboro 1-3, ukurarulula umraro, amaqhinga wokurarulula umraro. Indulungu, isikwere noncantathu.				
Imisebenzi yetlasi yoke		Umsebenzi ohlahlwa ngutitjhere		Imisebenzi yesitetjhi sokusebenzela
Ilanga 1	Ukutlhadhlhula nokurhemisa iinomboro 1-3.	Ukubala ngomlomo.		Umsebenzi 1 Umsebenzi 2 Umsebenzi 3 Umsebenzi 4
Ilanga 2	Ukukhambelanisa iinjamiliseleli zenomboro 1-3. Isilinganiso.	Okunye kokunye okukhambelanako. Tlhadhlhula bese urhemisa iinomboro 1-3.		
Ilanga 3	Ukubala - kunye ngaphezulu/kunye ngaphasi. Isikhundla: phasi naphezulu.	Isilinganiso. Khuhlaza bese uyahlukanisa.		
Ilanga 4	Ukurarulula umraro (ngaphezulu/ngaphasi). IPhosta 1.			
Ilanga 5	Ukusebenzisa inomboro ebujameni obujayelekileko: Uneminyaka emingaki yobudala?			

Workshop 3 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?

Iforomo lokuHlunga lesiFundobandulo 3

1. Ingabe isifundobandulo sibe ngilokho ebegade ukulindele?

2. Khuyini okufundileko kilesisifundobandulo okukusize khulu?

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

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

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