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EDUCATION
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GROWING GAUTENG TOGETHER

IsiNdebele/English

IHlelo lokuThuthukisa iimBalo zeGreyidi R
Grade R Mathematics Improvement Programme

Isifundobandulo 3 ● Workshop 3
Umhlahlandlela womKghonakalisi ● Facilitator's Guide

The Grade R Mathematics and Language Improvement Project is an initiative of the **Gauteng Department of Education** and its key partner, the **Gauteng Education Development Trust**.

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The Grade R Mathematics and Language Improvement Project is managed by **JET Education Services** with **UCT's Schools Development Unit** and **Wordworks** as technical partners.

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

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

Ukwenziwa nokukhiqizwa kweensetjenziswa zebandulo nezetlasi zePhrojekthi yokuThuthukiswa kweemBalo namaLimi kwaGreyidi R kukghonakele ngomusa wokusekelwa ngemali yephrojekthi ebuya ku-**United States Agency for International Development** kunye ne-**Zenex Foundation**.

IPhrojekthi yokuThuthukiswa kweemBalo namaLimi kwaGreyidi R ilawulwa yi-**JET Education Services** ne-**Schools Development Unit** ye-**UCT** kunye ne-**Wordworks** njengababambisani kezobuqharhaqharha.

I**Schools Development Unit** (SDU) ye-**University of Cape Town** (UCT) imbambisani kezobuqharhaqharha beembalo kuPhrojekthi yokuThuthukiswa kweemBalo namaLimi kwaGreyidi R. I-SDU iyiyunithi ngaphakathi kwe-School of Education ye-UCT eqalene nokuthuthukiswa kobukghwari babotitjhere beemBalo, iSayensi, ilwazi lokuTlola nokuFunda/iLimi namaKghono wePilo ukusukela kwaGreyidi R ukuya kwaGreyidi 12. I-SDU inikela abotitjhere iziqu zokufundisa neemfundo ze-UCT ezifitjhani eziphasisiweko, umsebenzi onzinze esikolweni, ukwenziwa kwemethiriyeli nerhubhululo ukusekela ukufundisa nokufunda kibo boke ubujamo beSewula Afrika.

AMAGAMA WOKUTHOKOZA

Ukuthokoza okukhethekileko:

- Iinkhulu zePhiko labaNqophisi leKharikhyulamu, iPhiko labaNqophisi laboTitjhere bezeFundo nePhiko labaNqophisi leFundo eKhethekileko yomNyango wezeFundo weGauteng, ekutjhugululweni kwemetheriyali yethu.
- Abasebenzi nabotitjhere be-Western Cape Education Department (WCED) ngokufaka kwabo isandla epumelelweni yokusetjenziswa kwe-Grade R Mathematics Programme (R-Maths) eTjhingalanga Kapa phakathi komnyaka we-2016 nowe-2019.
- Isiqhema sokutlola se-R-Maths: Abasebenzi nabathintanisi be-SDU.

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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)

Isirhunyezo

Umnqopho

Lesi sifundobandulo sesithathu kezilitjhumi nambili zeHlelo lokuThuthukisa iimBalo zeGreyidi R (IHlelo leemBalo), eliyingcenye 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 (IJiyomethri); 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 (IJiyomethri) (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)

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

Amalungiselelo

- PPT Ukwamukelwa nemiphumela
- Funda:

UmHlahlandlela womQondo, amakhasi 114–137
UmHlahlandlela wemiSebenzi: Ithemu 1, amakhasi 18–21

Isithasiselo A: Ithemu 1 Isirhunyezo sokuMumethweko kwaQobe yiVeke

- Hlela *iKhidi yeenSetjenziswa* yeHlelo leemBalo etafuleni yesiqhema ngasinye.

Imatheriyali

- Iphepha letjhadi eliphendlekako, amakhokhi
- *IKhidi yeenSetjenziswa* yesiqhema ngasinye
- *INcwadi yamaPhosta* yesiqhema ngasinye
- *IKhidi yeenSetjenziswa*: amabhlogo wama-athribhuthi

Opening and reflection **1 hour**

Facilitator's notes

- PPT: Open the session and read through the agenda and learning outcomes for the workshop.
- Remind participants of the *Take back to school* task from the end of Workshop 2. Ask participants to reflect on this task and the implementation of Weeks 3–5 and to complete **Activity 1**.
- Groups share key points with the large group. Reflect on how assessment is continuous and that observations need to be ongoing.

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.

_____

_____

_____

_____

Ukuvula nokuzindla

I-iri 1

Amanothi womkghonakalisi

- PPT: Vula isetjhini bese ufunda i-ajenda yoke nemiphumela yokufunda yesifundobandulo.
- Khumbuza abahlanganyeli ngo*Msebenzi obuyiselwa esikolweni* wekupheleni kweSifundobandulo 2. Bawa abahlanganyeli bazindle ngomsebenzi lo nokusetjenziswa kwemVeke 3–5 bese baqedelela **Umsebenzi 1**.
- Iinqhema zabelana ngamaphuzu aqakathekileko nesiqhema esikhulu. Zindla ngokobana ukuhlola kuragela phambili nokobana ukutjheja kufanele kuragela phambili.

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 (IJiyomethri) endaweni yeembalo.
3. Ukurekhode njani okutjhejileko ngomfundi ngamunye ngesikhathi somsebenzi ohlahlwa ngutitjhere?
4. Ngimiphi imithethokambiso oyitjheje khulu ngetlasinakho?

Ividiyo 1

UmHlahlandlela wemiSebenzi: Ithemu 1, Iveke 3, Ilanga 2 #1, 2 no-3 (ikhasi 57)

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

Facilitator's notes

- Explain that this workshop addresses the content of the Maths Programme Term 1 Weeks 6–9, and that the focus of Week 6 is on Patterns, Functions and Algebra.
- Refer participants to page 124 of the *Concept Guide*. Explain that the aim of **Activity 2** is to highlight the content of the Patterns, Functions and Algebra Content Area for Term 1.
- Ask participants to work in groups to complete **Activity 2**. Ask one person from each group to share their ideas.

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).

Isetjhini 1: AmaPhetheni, amaFanktjhini ne-Aljibhra

I-iri 1

Amanothi womkghonakalisi

- Hlathulula bonyana isifundobandulo lesi sikhambisana neHlelo leemBalo Ithemu 1 iimVeke 6–9, nokobana umnqopho weVeke 6 ukumaPhetheni, amaFanktjhini ne-Aljibhra.
- Layela abahlanganyeli ikhasi 125 *UmHlahlandlela womQondo.* Hlathulula bonyana ihloso **Yomsebenzi 2** kuveza okumumethweko kwamaPhetheni, amaFanktjhini ne-Aljibhra kwesiGaba sokuMumethweko kweThemu 1.
- Bawa abahlanganyeli basebenze ngeenqhema ukuqedelela **Umsebenzi 2**. Bawa umuntu munye esiqhemeni ngasinye bonyana abelane ngemibono yabo.

Isifundobandulo lesi sinqophe 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?

_____

_____

_____

Khumbula ukubuyelela kumaphetheni.
Yethula ilimi, isib. Khuyini okulandelako? Khuyini okuza ngaphambili?
Yakha amaphetheni wakho ngokusebenzisa izinto eziphathekako, imidwebo, amaphetheni wejiyomethri.
Hlathulula iphetheni yakho (umthetjhwana wokubuyelela).

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.

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).

Ukuzwisisa amaphetheni

Ukuthuthukisa ukuzwisisa amaphetheni yingcenye 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.

Umsebenzi 3

Esiqhemeni sakho, khulumisanani:

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

_____

_____

Amaphetheni ezambathweni, emakhiweni, emvelweni (isib. amathuthumbo, isihlaka seenyosi).

Amanothi womkghonakalisi

- PPT: Iinthombe zamaphetheni ezimazombe nathi ebhodulukweni lethu lemvelo nebhodulukweni elakhiweko.
- Khulumisanani ngokobana ilandelano lama-ayithemu linganabiswa kodwana lokhu akutjho bonyana kuzakwakheka iphetheni.
- Qala iimbonelo zalapha ilandelano libuyelelwa khona ukwakha iphetheni.

2. Qala iPhosta 7 ku*Ncwadi yamaPhosta*.

- Ngimaphi amaphetheni owabonako?

_____

_____

- Khuyini iphetheni?

_____

_____

Fanisa iingcenye yephetheni 'ebuyelelako'.
Amalunga ayabuyelelwa (ngaphandle kwalokha nakuyiphetheni engalandeli umthetho, isib. amacolo womuthi, amaphetheni angakahleleki ephepheni nofana etjhileni).

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

_____

2. How would you extend the pattern?

_____

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

- Ungayibuyelela iphetheni? Hlathulula.

_____

_____

Iphetheni itlhadlhula 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.

Umsebenzi 4

1. Ngiliphi ibumbeko ocabanga bonyana lizakuza ngemva kwesikwere sokugcina?

_____

2.. Ungayinabisa njani iphetheni le?

_____

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

Facilitator's notes

- 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**).

Amanothi womkghonakalisi

- PPT: Khangisa ilandelano elilandelako lamabhlogo wama-athribhuthi:

sarulani bovu hlaza samkayi sarulani

- Bawa abahlanganyeli baqale iphetheni bese basebenzise amabhlogo we-athribhuthi aseentafuleni zabo ukukopa ilandelano ngeenqhema bese baqedelelela **Umsebenzi 5**.

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 ingcenye yelandelano ebuyelelako?

_____

_____

Amanothi womkghonakalisi

- Ihloso yomsebenzi lo kubona ingcenye yelandelano ebuyelelako, okutjho iphetheni. Ingabe iphetheni ithoma ngesikwere esisarulani bese iphetha ngendulungu ehlaza samkayi? Nofana iphetheni ithoma ngesikwere esisarulani bese iphetha ngesikwere esisarulani?
- Hlathulula bonyana abafundi kufanele bakwazi ukufanisa iphetheni ngaphambi kobana bangayinabisa nofana bakhe amaphetheni wabo.
- Gandelela bonyana abotitjhere kufanele bahlale babuyelela iphetheni okungasenani kabili ngaphambi kobana babawe abafundi bayinabise, isibonelo:

- Ngemva kwemisebenzi le veza ukuqakatheka kokwazisa abafundi amaphetheni anetshwayo linye kwaphela elihlukileko, isib. ibumbeko, nokubanikela ilandelano elibuyelelako elide ngokwaneleko (isib. amabuyelelo amathathu) kobana bakwazi ukwenza iphetheni.
- Bawa abahlanganyeli iimbonelo zemihlobo yamaphetheni leyo imindeni engayithola emakhaya wayo nemiphakathini (**umthethokambiso wobujamo**).
- Zindla ngokobana ilemuko lomfundi lamaphetheni wangamalanga lisithomo sokuzwisisa umqondo wephetheni (**umthethokambiso wezinga**).

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

Activity Guide: Term 1, Week 6, Days 2, 3 and 4 (pages 104–111)

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 (ingcenye ebuyelelako elandelwaneni).

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

Ividiyo 2

UmHlahlandlela wemiSebenzi: Ithemu 1, iVeke 6, Amalanga 2, 3 ne-4 (amakhasi 104–111)

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

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

_____

_____

_____

_____

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

Umthethokambiso wezinga uthi 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

Facilitator's notes

- Explain that the focus of Week 7 is on Space and Shape (Geometry).
- Refer participants to pages 126–131 of the *Concept Guide*.
- Have participants work in groups to complete **Activity 6**. Ask one person from each group to report back.
- The focus on Space and Shape (Geometry) in this workshop extends the discussion in Workshop 2.

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.

Isetjhini 2: IsiKhala neBumbeko (IJiyomethri)

I-iri-1

Amanothi womkghonakalisi

- Hlathulula bonyana umnqopho weveke 7 ungesiKhala neBumbeko (IJiyomethri).
- Layela abahlanganyeli emakhasini 126–131 *womHlahlandlela womQondo.*
- Yenza abahlanganyeli basebenze ngeenqhema ukuqedelela **Umsebenzi 6**. Bawa umuntu munye esiqhemeni ngasinye athule umbiko.
- Umnqopho wesiKhala neBumbeko (IJiyomethri) kilesisifundobandulo unabisa imikhulumiswano yesiFundobandulo 2.

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

Ithemu 1 Isirhunyezo sokumumethweko: IsiKhala neBumbeko (IJiyomethri)

Umsebenzi 6

Qala isiGaba sokuMumethweko kwesiKhala neBumbeko (IJiyomethri) amakhasi 126–131 ku*mHlahlandlela 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.

_____

_____

_____

_____

Abafundi kufanele babone umehluko phakathi kwamabumbeko amabili la. Nanyana womabili anamahlangothi amane namakhona amane, uncamane unamahlangothi amabili amade namahlangothi amabili amafitjhani, bese isikwere sinamahlangothi amane anobude obulinganako.

2. Aboncamane bathulwe njani ngeVeke 3 yeHlelo leemBalo?

_____

_____

_____

_____

Kungenzeka ngokusebenzisa amabhoksi nokukhulumisana bese kumadaniswa amahlangothi webhoksi.

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.

Ukufanisa amabumbeko abobusombili (2-D) (aboncantathu)

Amanothi womkghonakalisi

- Khumbuza abahlanganyeli bonyana kusiFundobandulo 2 bafunde ngezinto ezibusontathu (3-D) namabumbeko abusombili (2-D).
  ***Ubusontathu (3-D** kutjho into enobuso obuthathu: ubude, ububanzi nokuphakama.*
  ***Ubusombili (2-D)** kutjho ibumbeko elinobuso obubili: ubude nobubanzi.*
- Hlathulula bonyana aboncantathu bafundiswa ngendlela efanako neyeendulungu neenkwere zeThemu 1 (Iveke 7).

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.

Ividiyo 3

UmHlahlandlela wemiSebenzi: Ithemu 1, iVeke 7, Amalanga 1 nele- 2 (amakhasi 120–125)

Bukelani ividiyo katitjhere azisa abafundi ngoncantathu.

Yelela bonyana utitjhere ubakhuthaza njani abafundi bonyana batlhadlhule ngamatshwayo kancantathu.

_____

_____

_____

_____

_____

Amanothi womkghonakalisi

- **Umsebenzi 7** abahlanganyeli bazakuzindla ngokobana i*Ncwadi yamaPhosta* ingasetjenziswa njani ngesikhathi semisebenzi ukuhlahlambisa imikhulumiswano.
- PPT: Khangisa iPhosta 8 bese ubawa abahlanganyeli baphendule imibuzo yo**Msebenzi 7.**
- Ngemva komsebenzi buza abahlanganyeli bonyana ngiwaphi amatshwayo wamabumbeko abusombili (2-D) ekukhulunywe ngawo nokobana ngiliphi ilimi leembalo elisetjenzisiweko.
- Khumbuza abahlanganyeli bonyana ukuthi busombili (2-D) kutjho amabumbeko anobude nobubanzi nokobana busontathu (3-D) kutjho izinto ezinobude, ububanzi nokuphakama.

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? 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?

_____

_____

UmHlahlandlela wemiSebenzi: Ithemu 1 unikela amathuba amanengi ithemu yoke kobana abotitjhere basebenzise imibuzo evulekileko. I*Ncwadi 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? uvalekile

_____

- Wazi ngani bonyana nguncantathu? uvulekile

_____

- Unamahlangothi amangaki? uvalekile

_____

- Unamakhona amangaki? uvalekile

_____

- Inemida emingaki? uvalekile

_____

- Bakhona abanye aboncantathu obabonako? uvalekile

_____

- Ngiwaphi amanye amabumbeko owabonako? uvalekile

_____

- Khuyini okufanako ngamabumbeko amabili la? uvulekile

_____

- Khuyini umehluko ngamabumbeko amabili la? uvulekile

_____

2. Ngimiphi imibuzo evulekileko naleyo evalekileko kilemibuzo engehla?

_____

_____

Facilitator's notes

- Discuss the kinds of questions that were asked in **Activity 7** and how the **guidance principle** encourages problem solving through effective questioning.
- Highlight the importance of using maths vocabulary in discussions with learners.
- Remind participants that not all learners will grasp the ideas/concepts at the same time (**level principle**) and that they should be encouraged to share their thinking and be given plenty of practical activities and opportunities to talk about shapes.

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.

Amanothi womkghonakalisi

- Khulumisanani ngemihlobo yemibuzo ebuziweko **Umsebenzi 7** nokobana **umthethokambiso wokuhlahla** ukukhuthaza njani ukurarululwa kwemiraro ngokubuza imibuzo efanelekileko.
- Tjengisa ukuqakatheka kokusebenzisa ilwazimagama leembalo lokha nakukhulunyiswana nabafundi.
- Khumbuza abahlanganyeli bonyana akusibo boke abafundi abazakubamba imibono/imiqondo ngesikhathi esifanako **(umthethokambiso wezinga)** nokobana kufanele bakhuthazwe bonyana babelane ngemicabango yabo nokobana banikelwe imisebenzi namathuba amanengi wokukhuluma ngamabumbeko.

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 neempendulo 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 batlhadlhule 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 wo*mHlahlandlela womQondo* ukufunda ngokunabileko mayelana nokubuza imibuzo ephathelene nokufundisa nokufunda ngemiqondo yesiKhala noBumbeko (IJiyomethri). Godu funda ikhasi 193 ngokunabileko ngelwazimagama lesiKhala neBumbeko (IJiyomethri) kwaGreyidi R.

Session 3: Measurement

1 hour

Facilitator's notes

- Explain that the focus of Week 8 is on Measurement.
- Refer participants to pages 132–135 of the *Concept Guide*.
- Have participants work in groups to complete **Activity 8**. Ask one person from each group to share their ideas.

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?

Facilitator's notes

- Ask participants to think about what measurement is.
- PPT: Same picture as in Activity 9.
- Participants complete **Activity 9** and share what they have written.
- Brainstorm the following questions with the group:
  - Who is taller?
  - Who is heavier?
  - Who is older?
- Explain that measurement is about finding out 'how much' there is of a something, e.g. the length of something, how much something holds (the capacity), the mass of something or how long it takes to do something (time).
- Explain that to talk about measurement you need to say what you want to measure – the attribute. Give examples of attributes: length, height, mass, capacity.
- Use the information below Activity 9 to explain standard and non-standard measuring units.
- Explain that in Grade R, learners measure informally using non-standard measuring units to measure time, length, mass and capacity or volume.

Isetjhini 3: Ukumeda

I-iri 1

Amanothi womkghonakalisi
♦ Hlathulula bonyana Ukumeda kumnqopho weVeke 8. ♦ Layela abahlanganyeli amakhasi 132–135 wo*mHlahlandlela womQondo*. ♦ Abahlanganyeli abasebenze ngeeqhema ukuqedelela **Umsebenzi 8**. Bawa umuntu munye esiqhemeni ngasinye abelane ngemibono yabo.

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?

Amanothi womkghonakalisi
♦ Bawa abahlanganyeli bacabange ngokobana khuyini ukumeda. ♦ PPT: Isithombe esifanako Umsebenzi 9. ♦ Abahlanganyeli baqedelela **Umsebenzi 9** bese babelana ngalokho abakutlolileko. ♦ Cocani ngemibuzo elandelako nesiqhema: Ngubani omudanyana? Ngubani obudisana? Ngubani omdadlana? ♦ Hlathulula bonyana ukumeda kuphathelene nokuthola bonyana 'kungangani' okukhona kwento, isib. ubude bento, into iphethe/ithwele kangangani (umthamo), ubungako bento nofana kuthatha isikhathi esingangani ukwenza into (isikhathi). ♦ Hlathulula bonyana ukukhuluma ngokumeda kufanele utjho lokho ofuna ukukumeda – i-athribhuthi. Nikela isibonelo se-athribhuthi: ubude, ukuphakama, ubudisi, umthamo. ♦ Sebenzisa ilwazi elingenzasi komsebenzi Umsebenzi 9 ukuhlathulula amayunithi avamileko namayunithi angakavami wokumeda. ♦ Hlathulula bonyana kwaGreyidi R, abafundi balinganisa ngokungakahleleki ngokusebenzisa amayunithi angakavami wokumeda ukumeda isikhathi, ubude, ubudisi, umthamo nofana ivolomu.

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.

Umsebenzi 9 sizakukhulumisana ngombuzo ‘Khuyini ukumeda?’.

Umsebenzi 9

Qala isithombe esingenzasi bese uphendula umbuzo.

Ngubani omkhulu khulu?

_____

Ukumeda kuphathelene 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 ukutlhadlhula ngokumeda: -de, -budisi, -dadlana.

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.

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

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

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

Ukumadanisa bunqopha

Amanothi womkghonakalisi

- Tjengisa bonyana kusetjenziswa njani ukumadanisa amayunithi angakavami namayunithi avamileko wokumeda**.** Bawa amavolontiya abunane ajame ngaphambili. Buza:
  Ngubani omude khulu esiqhemeni? Wazi njani?
  Ngubani omfitjhani khulu esiqhemeni? Wazi njani?
  Bakhona abaphakeme ngokulinganako? Wazi njani?
  Singathola njani?
- Abahlanganyeli abajame bafulathelane ukumadanisa ukuphakama kwabo. Ngemva kwalokho, bawa abahlanganyeli baqedelele **Umsebenzi 10**.
- Hlathulula bonyana ngokumadanisa bunqopha i-athribhuthi (ukuphakama) yabantu ababili, sitholile bonyana ngubani omudanyana.
- Yitjho bonyana umsebenzi wokumeda lo uthethwe kuVeke 8 *kumHlahlandlela wemiSebenzi: Ithemu 1* (amakhasi 136–149) nokobana abahlanganyeli kufanele baqale emsebenzini lo lokha nabaplanako.

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 wo*mHlahlandlela womQondo* ukufunda ngokunabileko mayelana nokumeda namakhasi 136–149 wo*mHlahlandlela wemiSebenzi: Ithemu 1* ngaphambi kokuphendula imibuzo engenzasi.

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. Ngiyiphi iyunithi yokumeda engakavami esetjenzisiweko ukumeda ukuphakama kwabahlanganyeli?

_____

Imizimba yabafundi.

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

_____

Isib. intambo, ipensela, ibhlogo.

Isikhathi

Amanothi womkghonakalisi

- Kghonakalisa ikulumiswano mayelana nokufundisa abafundi bakwaGreyidi R isikhathi – bonyana simuqondo ongabonakaliko nokobana abafundi kufanele bafunde ngesikhathi emalemukweni wangamalanga abawajayeleko.
- Bawa abahlanganyeli baqedelele **Umsebenzi 11** bese babelana ngemibono yabo nesiqhema esikhulu. Lokhu kufanele kufake hlangana:
  - ukulandelanisa izehlakalo ezibuyelelako nofana imisebenzi yelanga
  - itjhadi lobujamo bezulu elinelanga leveke, ilanga lenyanga nenyanga neenthombe phezu kwekhalenda yangeveke
  - ikhalenda enamalanga weveke.

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

_____

_____

_____

_____

Ukukhulumisana ngelandelano lemisebenzi – isib. khuyini esikwenza kokuthoma, okulandelako, kwenzekani ngaphambi kweSikhathi sendatjana – Nikela amathuba wokuzindla ngalokho okwenzeke kokuthoma/okulandelileko/kokugcina.

3. Kubayini ilwazimagama liqakathekile ekuzwisiseni umqondo wesikhathi?

_____

_____

_____

Ngaphambili, ngemuva, okulandelako, njenganje, ngaleso sikhathi, imini, ubusuku, ekuseni, ngemva kwamadina, namhlanje, izolo, kusasa.

Qala amakhasi 194–207 wo*mHlahlandlela womQondo* ukufunda ngokunabileko mayelana nokumeda nesikhathi. Qala ikhasi 211 lo*mHlahlandlela womQondo* ukufunda ngokunabileko ngokubuza imibuzo ephathelene nokufundisa nokufunda ngokumeda kwaGreyidi R.

Session 4: Numbers, Operations and Relationships

1 hour

Facilitator's notes

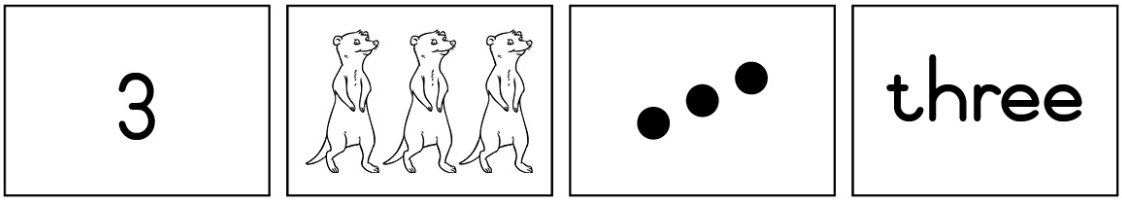
- Draw the participants' attention to how the number 3 is introduced on pages 102–105 of *Activity Guide: Term 1*.
- Explain that even though the Content Area Focus is Patterns, Functions and Algebra in Week 6, the number 3 is also introduced in this week.
- Discuss the routine that is followed for the 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.

Isetjhini 4: Iinomboro, ama-Opharetjhini noBudlelwana

I-iri 1

Amanothi womkghonakalisi

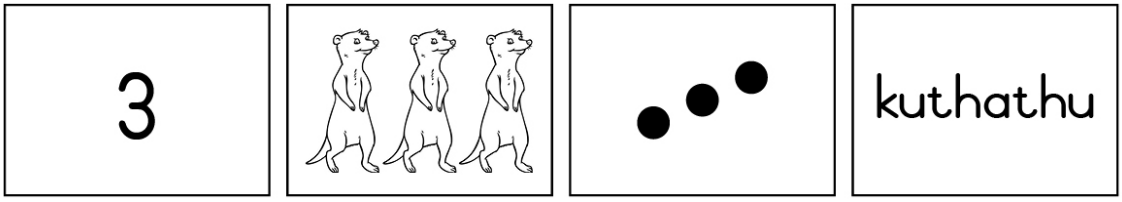
- Dosela itjhejo labahlanganyeli ekuyeleleni bonyana inomboro ithulwa njani emakhasini 102–105 *womHlahlandlela wemiSebenzi: Ithemu 1*.
- Hlathulula bonyana nanyana umNqopho wesiGaba sokuMumethweko ukumaPhetheni, amaFanktjhini ne-Aljibhra iVeke 6, inomboro 3 nayo ithulwa kileveke.
- Khulumisanani ngekambiso elandelako yeenomboro 1 no-2 bese uzindla ngokobana kulandelwa ikambiso efanako ngenomboro 3. Khulumisanani ngokobana kubayini inomboro ngayinye yesithombe namaqatjhazi linakunye ngaphezu kwenomboro yangaphambili bese uhlanganisa nokuthi u-2 unakunye ngaphezulu kuno-1 bese u-3 unakunye ngaphezulu kuno-2.
- Hlathulula bonyana ngeVeke 6 abafundi godu baziswe amakarada wamaqatjhazi.
- Sebenzisani amakarada wamaqatjhazi we-*Khidi yeenSetjenziswa* ukutjengisa bonyana abafundi bazikhambelanisa njani iimbalisi namakarada wamaqatjhazi bese bathola bonyana u-3 wenziwe ngeqatjhazi li-1 nama-2.

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:

Qala amakhasi 102–105 *womHlahlandlela womQondo: Ithemu 1 ko*msebenzi wokuthulwa kwenomboro 3.

Coca *Indatjana yenomboro 3* bese uyayilingisa lokha nawakha indatjana ngeenjamiseleli zenomboro ezihlukileko ngokusebenzisa amakarada womhlobiso *weKhidi 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.

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?*

Ithemu 1 Isirhunyezo sokumumethweko: Iinomboro, ama-Opharetjhini noBudlelwana

Amanothi womkghonakalisi

- Hlathulula bonyana umnqopho weVeke 9 ziiNomboro, ama-Opharetjhini noBudlelwana.
- Layela abahlanganyeli emakhasini 114–123 *womHlahlandlela womQondo*.
- Abahlanganyeli abasebenze ngeenqhema ukuqedelela **Umsebenzi 12**. Bawa umuntu munye esiqhemeni ngasinye abelane ngemibono yabo.

IVeke 7 inqophene nesiKhala neBumbeko (IJiyomethri) 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 komtlolo ohlaza samkayi nonzima? Hlathulula bonyana kubayini ucabanga bona lokhu kunjalo.

Ukubala

Amanothi womkghonakalisi

- Veza bonyana abafundi bakwaGreyidi R abenzi ama-opharetjhini weenomboro anjengokuhlanganisa nokukhupha, ukubuyabuyelela nokuhlukanisa. Nikela isibonelo sokobana imiqondo le ivame ukwakhela njani ngokubala nokulawula imatheriyeli ephathekako nangokurarulula imiraro ngendlela efaneleko yobujamo bepilo yamambala.
- Tjengisa umsebenzi ebandakanya ukuhlukanisa nokwakha iinomboro ('Khuhluza bese uyahlukanisa' emakhasini 166–169 *womHlahlandlela wemiSebenzi: Ithemu 1*).
- Ngemva kwesitjengiso, abahlanganyeli baqedelela **Umsebenzi 13**. Bawa umuntu munye esiqhemeni ngasinye abelane ngemibono yabo.
- Khulumani ngokobana ngiyiphi yemibuzo ebuziweko ebeyivulekile begodu ngiyiphi imibuzo ebeyivalekile.
- Khumbuza abahlanganyeli bonyana akusibo boke abafundi abangatjengisa ukuzwisisa imiqondo yenomboro le ngesikhathi esifanako (**umthethokambiso wezinga**).

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?*

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**).

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 'khuhluza bese uyahlukanisa' bese nikhulumisana ngalokho enikutjhejileko esiqhemeni senu.

Umsebenzi 13

Khulumisanani ngesitjengiso eniceda ukusibukela.

1. Ngiyiphi imiqondo yenomboro abafundi abangayifunda ngokudlala umdlalo lo?

_____

_____

Ukulumbanisa (ukuhlanganisa) nokuhlukanisa (ukukhupha).

2. Ngimiphi imibuzo esetjenziswe mkghonakalisi eveze kuhle ukuhlanganisa nokukhupha?

_____

_____

_____

_____

Zingaki iimbalisi engiziphetheko esandleni lesi? Bese ngakilesi isandla? Lokha nangizihlanganisako ziba zingaki engiziphetheko?
Uzihlukanise njani iimbalisi zakho?
Zingaki oziphetheko esivalweni ngasinye? Lokha nawuzihlanganisako ziba zingaki oziphetheko?
Nangabe ususa lezi eziphezu kwesivalo uzakusala nazingaki?

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

Session 5: Planning for teaching **1 hour**

Facilitator's notes

- Refer participants to Appendix A: Term 1 Weekly Content Summary (Weeks 6–9).
- Read the whole class, teacher-guided and workstation activities sections.
- Have participants work in groups to complete **Activity 14**.

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	2-D shapes 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

Isetjhini 5: Ukuhlelela ukufundisa

I-iri 1

Amanothi womkghonakalisi

- Layela abahlanganyeli Isithasiselo A: Ithemu 1 Isirhunyezo sokuMumethweko kwaQobe yiVeke (Iimveke 6–9).
- Funda imisebenzi yetlasi yoke, ehlahlwa ngutitjhere neengaba zemisebenzi yeentetjhi zokusebenzela.
- Abahlanganyeli abasebenze ngeenqhema ukuqedelela **Umsebenzi 14**.

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?	AmaPhetheni, amaFanktjhini ne-Aljibhra	IsiKhala neBumbeko (IJiyomethri)	Ukumeda	Iinomboro, ama-Opharetjhini noBudlelwana
Ngiyiphi imiqondo eqakathekileko ezakufundwa bafundi?	Amaphetheni INomboro 3 Ukulandelanisa iinomboro	Amabumbeko we-2-D Ukubona isithombe kesinye isithombe Isikhundla Ukubala ngomlomo	Ubude/ukuphakama Isikhathi	Isilinganiso Iinomboro ebujameni obujayelekileko Ngaphezulu ngakunye, ngaphasi ngakunye Isikhundla: phezulu/phasi
Ngiliphi ilwazi elitjha elethuliweko?	Ukufanisa amaphetheni Ukukopa amaphetheni INomboro 3 Ukulandelanisa iinomboro 1–3	Aboncantathu be-2-D Ukubona isithombe kesinye isithombe Isikhundla: phambi kwe-, ngemuva	Ukulandelanisa isikhathi: imini nobusuku; ukukhanya nobumnyama Ubude: itjhadi lokuphakama Isikhundla: Phezu kwe-, ngaphasi, ngemuva Ukubala uye emuva 5–1	Ukulinganisa Iinomboro ebujameni obujayelekileko Ngaphezulu ngakunye, ngaphasi ngakunye Isikhundla: phezulu/phasi
Ngiwaphi amakghono ajayezwako?	Ukubala ngomlomo 1–5 Ukubala izinto 1–5 Ukugandelela umqondo wenomboro 1 na-2	Indulungu, isikwere Ukubala izinto 1-5 Ukugandelele umqondo wenomboro 1–3 Ukulandelanisa iinomboro 1–3 Isimethri Khulu, ncani	Ukubala ngomlomo 1–10 Ukulandelanisa iinomboro 1–3 Ukubala izinto 1–5 Gandelela 1–3	Ukubala ngomlomo 1–10 Ukubala uye emuva usuka ku-5 Ukulandelanisa iinomboro 1–3 Ukubala izinto 1–5 Umqondo wenomboro 1–3 Ukurarulula umraro Indulungu, isikwere, uncantathu

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.

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 ngokudlhegana 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.

Imisebenzi yokuvala

Amanothi womkghonakalisi

- **Iimfundo ezifundiweko:** Bawa abahlanganyeli bacabange ngalokho abakufundileko ngesikhathi sesifundobandulo nokobana baqedelele **Umsebenzi 16** ngamunye.
- **Umsebenzi obuyiselwa esikolweni:** Funda umsebenzi lo woke**.** Buza nangabe kukhona ongakuzwisisi kuhle nokufuna ihlathululo enabileko.
- **Ukuhlunga:** Khupha amakhophi weForomo lokuHlunga wesiFundobandulo bese unikela abahlanganyeli bawazalise.
- **Isifundobandulo esilandelako:** Nikela amalanga wesifundobandulo esilandelako bese uvala isifundobandulo.

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.

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

<table>
<tr><th colspan="5">Week 6</th></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><th colspan="2">Whole class activities</th><th>Teacher-guided activity</th><th colspan="2">Workstation activities</th></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>Day 3</td><td>Body percussion patterns and problem solving.</td><td>Activity 3</td><td>Pattern cards using counters and sticks.</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>Activity 4</td><td>Template with playdough – make 3.</td></tr>
<tr><td>Day 5</td><td>Problem solving 1–3. Making groups the same.</td><td></td><td></td></tr>
<tr><th colspan="5">Week 7</th></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><th colspan="2">Whole class activities</th><th>Teacher-guided activity</th><th colspan="2">Workstation activities</th></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>

ISITHASISELO A: ITHEMU 1 ISIRHUNYEZO SOKUMUMETHWEKO KWAQOBE YIEKE (IIMVEKE 6–9)

Ithemu 1: Ihlelo lomsebenzi

<table>
<tr><th colspan="5">Iveke 6</th></tr>
<tr><td colspan="5">ISIGABA SOKUMUMETHWEKO: AMAPHETHENI, AMAFANKTJHINI ne-ALJIBHRA</td></tr>
<tr><td colspan="5">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</td></tr>
<tr><th colspan="2">Imisebenzi yetlasi loke</th><th>Umsebenzi ohlahlwa ngutitjhere</th><th colspan="2">Imisebenzi yesitetjhi sokusebenzela</th></tr>
<tr><td>Ilanga 1</td><td>Yethula indatjana yomhlobiso wenomboro 3.</td><td rowspan="5">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.</td><td>Umsebenzi 1</td><td>Yenza iphahla yesithombe ngokusebenzisa iphetheni bese udweba izinto ezintathu.</td></tr>
<tr><td>Ilanga 2</td><td>Ukusebenzisa indulungu zobukhulu nombala ohlukileko ukwenza amaphetheni alula. Khulumisanani ngamaphetheni (ukubuyelela, umehluko, ukufana).</td><td>Umsebenzi 2</td><td>Ukubala imitlhala yomuno.</td></tr>
<tr><td>Ilanga 3</td><td>Amaphetheni wamatjhada womzimba nokurarulula umraro.</td><td>Umsebenzi 3</td><td>Amakarada wamaphetheni ngokusebenzisa iimbalisi neengojwana.</td></tr>
<tr><td>Ilanga 4</td><td>Ukusebenzisa iindulungu nezinto ezikulu nezincani ukwenza amaphetheni alula. Ukufanisa amaphetheni ngetlasini.</td><td>Umsebenzi 4</td><td>Umfuziselo onehlama yokudlalisa – yenza u-3.</td></tr>
<tr><td>Ilanga 5</td><td>Ukurarulula umraro 1–3. Ukwenza iinqhema zifane.</td><td></td><td></td></tr>
<tr><th colspan="5">Iveke 7</th></tr>
<tr><td colspan="5">ISIGABA SOKUMUMETHWEKO: ISIKHALA NEBUMBEKO (IJIYOMETHRI)</td></tr>
<tr><td colspan="5">ISIHLOKO: Khumbula, fanisa bese utjho amabumbeko we-2-D: uncantathu; tlhadlhula 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</td></tr>
<tr><th colspan="2">Imisebenzi yetlasi loke</th><th>Umsebenzi ohlahlwa ngutitjhere</th><th colspan="2">Imisebenzi yesitetjhi sokusebenzela</th></tr>
<tr><td>Ilanga 1</td><td>Yethula uncantathu namatshwayo wakhe.</td><td rowspan="5">Ukubala ngomlomo.
Thinta bese uyabala ngosebenzisa imibhotjhongo yenomboro 1–3 (amabhlogo we-Unifix).
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.</td><td>Umsebenzi 1</td><td>Umsebenzi kancantathu – sika bese uhlobisa aboncantathu abane.</td></tr>
<tr><td>Ilanga 2</td><td>Fanisa ibumbeko likancantathu kuNcwadi yamaPhosta, ukurarulula umraro.</td><td>Umsebenzi 2</td><td>Iviyaviyani eligadangisiweko – isimethri.</td></tr>
<tr><td>Ilanga 3</td><td>Ngaphambi kwe- nangemva kwe; ukweqa umuda ophakathi.</td><td>Umsebenzi 3</td><td>Ibumbeko lomuntu – sebenzisa amabumbeko asikelwe futhi.</td></tr>
<tr><td>Ilanga 4</td><td>Madanisa okukhulu khulu nokuncani khulu.</td><td>Umsebenzi 4</td><td>Amaphazili webumbeko – (iinquntu ezisithandathu ubuncani).</td></tr>
<tr><td>Ilanga 5</td><td>Isimethri.</td><td></td><td></td></tr>
</table>

<table>
<tr><th colspan="5">Week 8</th></tr>
<tr><td colspan="5">CONTENT AREA: MEASUREMENT</td></tr>
<tr><td colspan="5">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</td></tr>
<tr><th colspan="2">Whole class activities</th><th>Teacher-guided activity</th><th colspan="2">Workstation activities</th></tr>
<tr><td>Day 1</td><td>Day and night; light and dark.</td><td rowspan="5">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.</td><td>Activity 1</td><td>Day and night activity – cutting out pictures.</td></tr>
<tr><td>Day 2</td><td>Introduce height chart; position vocabulary.</td><td>Activity 2</td><td>Draw from shortest to tallest.</td></tr>
<tr><td>Day 3</td><td>Height chart. Sorting day and night everyday objects.</td><td>Activity 3</td><td>Paste shapes from biggest to smallest.</td></tr>
<tr><td>Day 4</td><td>Poster – Day and night. Positional vocabulary: on, under, below and on top.</td><td>Activity 4</td><td>Day/night matching cards.</td></tr>
<tr><td>Day 5</td><td>Compare heights.
Movement-positions.</td><td></td><td></td></tr>
<tr><th colspan="5">Week 9</th></tr>
<tr><td colspan="5">CONTENT AREA: NUMBERS, OPERATIONS and RELATIONSHIPS</td></tr>
<tr><td colspan="5">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.</td></tr>
<tr><th colspan="2">Whole class activities</th><th>Teacher-guided activity</th><th colspan="2">Workstation activities</th></tr>
<tr><td>Day 1</td><td>Describe and order numbers 1–3.</td><td rowspan="5">Oral counting.
One-to-one correspondence.
Describe and order numbers 1–3.
Estimation.
Shake and break.</td><td>Activity 1</td><td>Playdough making 1–3 objects.</td></tr>
<tr><td>Day 2</td><td>Matching number representations 1–3.
Estimation.</td><td>Activity 2</td><td>Draw pictures 1–3 in shapes.</td></tr>
<tr><td>Day 3</td><td>Counting – one more/one less.
Position: up and down.</td><td>Activity 3</td><td>Pasting. Picture with three stars, two trees, one moon.</td></tr>
<tr><td>Day 4</td><td>Problem solving (more/less). Poster 1.</td><td>Activity 4</td><td>Puzzles (minimum six piece).</td></tr>
<tr><td>Day 5</td><td>Using number in familiar context: How old are you?</td><td></td><td></td></tr>
</table>

Iveke 8

ISIGABA SOKUMUMETHWEKO: UKUMEDA

ISIHLOKO: Isikhathi: imini nobusuku; ubude: Madanisa bese urhemisa izinto ukutlhadlhula 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. Imini nobusuku; imisebenzi yobumnyama nokukhanya: - ingubo - amakarada womsebenzi. Indatjana yemini nobusuku nokulandelanisa. Isikhundla (phezulu, ngaphasi, ngenzasi, ngaphezulu, eduze kwe, phakathi). Iphetheni (iinlwana). Itjhadi lokuphakama.	**Umsebenzi 1** **Umsebenzi 2** **Umsebenzi 3** **Umsebenzi 4**	Umsebenzi wemini nobusuku – iinthombe ezisikiweko. Dweba ukusuka kokufitjhani khulu ukuya kokude khulu. Namathisela amabumbeko ukusuka kelikhulu khulu ukuya kelincani khulu. Ukukhambelanisa amakarada wemini/ubusuku.
Ilanga 2	Yethula itjhadi lokuphakama; ilwazimagama lesikhundla.			
Ilanga 3	Itjhadi lokuphakama. Ukuhlela izinto zangamalanga zemini nobusuku.			
Ilanga 4	Iphosta – Imini nobusuku. Ilwazimagama lesikhundla: phezulu, ngaphasi, ngenzasi nangaphezulu.			
Ilanga 5	Madanisa ukuphakama. Ukusikinyeka – isikhundla.			

Iveke 9

ISIGABA SOKUMUMETHWEKO: IINOMBORO**,** AMA-OPHARETJHINI noBUDLELWANA

ISIHLOKO: Tlhadlhula, 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	Ukutlhadlhula nokurhemisa iinomboro 1–3.	Ukubala ngomlomo. Okunye kokunye okukhambelanako. Tlhadlhula bese urhemisa iinomboro 1–3. Isilinganiso. Khuhluza bese uyahlukanisa.	**Umsebenzi 1** **Umsebenzi 2** **Umsebenzi 3** **Umsebenzi 4**	Ukwenza izinto 1–3 ngehlama yokudlalisa. Dweba iinthombe zamabumbeko 1–3. Ukunamathisela. Isithombe esineenkwekwezi ezintathu, imithi emibili, inyanga eyodwa. Amaphazili (iinquntu ezisithandathu ubuncani).
Ilanga 2	Ukukhambelanisa iinjamiseleli zenomboro 1–3. Isiliganiso.			
Ilanga 3	Ukubala – kunye ngaphezulu/kunye ngaphasi. Isikhundla: phasi naphezulu.			
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 iimfundobandulo ezizako zibe ngcono?

_____
_____
_____
_____