IsiNdebele/English

IHlelo lokuThuthukisa iimBalo zeGreyidi R
Grade R Mathematics Improvement Programme

Isifundobandulo 9 ● Workshop 9
Umhlahlandlela womKghonakalisi ● Facilitator's Guide

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.

Ukulawulwa nokutlanywa kwehlelo: Cally Kuhne noTholisa Matheza
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Okumumethweko

Overview

Purpose

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

The purpose of this workshop is to continue assisting teachers to implement the Maths Programme in their classrooms. Participants will have the opportunity to reflect on their implementation of the Maths Programme and discuss their planning, teaching and assessment. They will also consider learner progress, and individual developmental and learning needs. Participants will reflect on appropriate assessment strategies for capturing learner progress. The workshop explores the content for Term 3 Weeks 7–10 and its classroom implementation.

References to the Grade R Mathematics Content Areas are taken from the *Curriculum and Assessment Policy Statement (CAPS)*: *Grade R Mathematics (Final Draft),* 2011, Department of Basic Education, South Africa.

Learning outcomes

- To reflect on the implementation of Term 3 Weeks 4–6
- To explore play-based strategies to support teaching maths in Grade R
- To deepen understanding of number concept in the Numbers, Operations and Relationships Content Area and to link these to the implementation of maths in the Grade R classroom
- To deepen understanding of appropriate assessment in Grade R
- To reflect on challenges and find solutions to implementing the Maths Programme
- To map out the Maths Programme content to be taught in Term 3 Weeks 7–10

Workshop content

- Opening and reflection   (1 hour)
- Session 1: Numbers, Operations and Relationships   (1 hour)

TEA

- Session 2: Numbers, Operations and Relationships (continued)   (1 hour)
- Session 3: Calculation in Grade R   (1 hour)

LUNCH

- Session 4: Planning for teaching   (1½ hours)
- Closing activities   (30 minutes)

Isirhunyezo

Umnqopho

Lesi sifundobandulo sethoba 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 bazakuthola ithuba lokuzindla ngokusebenzisa kwabo iHlelo leemBalo begodu bakhulumisane ngokuhlela, ukufundisa nokuhlola kwabo. Godu bazakuyelela iragelophambili lomfundi, neendingo zokuthuthuka nokufunda komfundi ngamunye. Abahlanganyeli bazakuzindla ngamano afaneleko wokuhlola ukuthola iragelophambili labafundi. Isifundobandulo lesi sihlola okumumethweko kweThemu 3 Iimveke 7–10 nokwenziwa komsebenzi ngetlasini.

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

Imiphumela yokufunda

♦ Ukuzindla ngokusetjenziswa kweThemu 3 Iimveke 4–6
♦ Ukuhlola amano anzinze ekudlaleni ukusekela ukufundisa iimbalo kwaGreyidi R
♦ Ukuqinisa ukuzwisisa umqondo wenomboro kusiGaba sokuMumethweko seeNomboro, ama-Opharetjhini noBudlelwana nokuhlanganisa lokhu ekwenzeni iimbalo ngetlasini yeGreyidi R
♦ Ukuqinisa ukuzwisisa ukuhlola okufaneleko kwaGreyidi R
♦ Ukuzindla ngeentjhijilo nokuthola iinsombululo zokuphumelelisa iHlelo leemBalo
♦ Ukuhlela okumumethweko kweHlelo leemBalo ekufanele kufundiswe ngeThemu 3 Iimveke 7–10

Okumumethweko kwesifundobandulo

♦ Ukuvula nokuzindla   (I-iri 1)
♦ Isetjhini 1: Iinomboro, ama-Opharetjhini noBudlelwana   (I-iri 1)
ITIYE
♦ Isetjhini 2: Iinomboro, ama-Opharetjhini noBudlelwana (kuyaraga)   (I-iri 1)
♦ Isetjhini 3: Ukubala kwaGreyidi R   (I-iri 1)
ISIDLO SEMINI
♦ Isetjhini 4: Ukuhlelela ukufundisa   (Ama-iri 1½)
♦ Imisebenzi yokuvala   (Imizuzu 30)

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Preparation

- PPT welcome and outcomes
- Familiarise yourself with all the PowerPoints and videos
- Read:
  Concept Guide, pages 138–161
  Activity Guide: Term 3, pages 120–185
- Bring the post box
- Remind participants to bring their:
  Concept Guide
  Activity Guide: Term 2
  Activity Guide: Term 3
  Poster Book
- Write the following sentences on four large strips of paper:
  I learnt ...
  I did not like ...
  I now understand ...
  I'm still not clear about ...
- Cut A4 paper strips for each group.

Materials

- Flipchart paper, kokis
- Prestik
- A *Resource Kit* for each group

Ukulungiselela

- PPT ukwamukelwa nemiphumela
- Zijayeze ngawo woke ama-*PowerPoints* namavidiyo
- Funda:
  UmHlahlandlela womQondo, amakhasi 138–161
  UmHlahlandlela wemiSebenzi: Ithemu 3, amakhasi 120–185
- Letha ibhoksi leposi
- Khumbuza abahlanganyeli balethe:
  UmHlahlandlela womQondo
  UmHlahlandlela wemiSebenzi: Ithemu 2
  UmHlahlandlela wemiSebenzi: Ithemu 3
  INcwadi yamaPhosta
- Tlola imitjho elandelako phezu kwemitletle emine yephepha:

  Ngifunde …
  Akhenge ngithande …
  Sengiyezwisisa kwanje …
  Ngisengakacacelwa mayelana ne …
- Sikela isiqhema ngasinye imitletle yephepha le-A4.

Imatheriyali

- Iphepha letjhadi eliphendlekako, amakhokhi
- Iphrestiki
- *IKhidi yeenSetjenziswa* yesiqhema ngasinye

Opening and reflection

1 hour

Reflection involves thinking and talking about your experiences and what you have learnt. Consider the Maths workshops you have attended and complete the sentences the facilitator displays.

Facilitator's notes

- ♦ PPT: Learning outcomes of the workshop.
- ♦ Put the sentence strips on the wall:
  - I learnt …
  - I did not like …
  - I now understand …
  - I'm still not clear about …
- ♦ Place A4 paper strips on each table. Participants write their responses to the sentence strips on the A4 paper strips. Use Prestik to display their strips under the relevant sentences.
- ♦ Discuss the post box comments and feedback from the previous workshop. Remind participants to 'post' any new comments and feedback during the workshop.

Reflection on implementation

Facilitator's notes

- ♦ Remind participants of the *Take back to school task* from the end of Workshop 8.
- ♦ Refer participants to **Activity 1** and **2** and read through the instructions. Participants complete the activities in their groups. Groups then share key points with the large group.
- ♦ After the small group discussions, take comments from each group. Summarise the successes and challenges and discuss the implications for classroom implementation.

The *Take back to school task* from Workshop 8, required you to do the following:

- ♦ Use *Activity Guide: Term 3* to plan and implement Term 3 Weeks 4–6 of the Maths Programme.
- ♦ Write comments in the book that you use to keep track of each learner's progress (learner observation book), and use the **'Check that learners are able to'** observation list during each of the teacher-guided activities to guide your observations and comments.
- ♦ Make notes of what worked well, what did not work well and how you resolved any challenges during your implementation of Term 3 Weeks 4–6.

In the next activities make use of your learner observation book and the notes you made when reflecting on each day's teaching.

Ukuvula nokuzindla

Ukuzindla kufaka hlangana ukucabanga nokukhuluma ngelemuko lakho nangalokho okufundileko. Yelela iimfundobandulo zeemBalo ozikhambeleko bese wenza imitjho etjengiswa mkghonakalisi.

Amanothi womkghonakalisi
♦ PPT: Imiphumela yokufunda yesifundobandulo lesi.
♦ Beka imitletle yemitjho ebodeni: -Ngithande … - Akhenge ngithande … - Sengiyezwisisa kwanje … - Ngisengakacacelwa mayelana ne…
♦ Beka imitletle yephepha le-A4 etafuleni ngayinye. Abahlanganyeli batlola iimpendulo zabo zemitletle yemitjho emitletleni yephepha le-A4. Sebenzisa iphrestiki ukukhangisa imitletle yabo ngaphasi kwemitjho efaneleko.
♦ Khulumisanani ngemibono nemibiko ebuyako yebhoksi lokuposa lesifundobandulo esidlulileko. Khumbuza abahlanganyeli 'bapose' nofana ngonjani umbono nombiko obuyako omutjha ngesikhathi sesifundobandulo.

Ukuzindla ngokusebenza

Amanothi womkghonakalisi
♦ Khumbuza abahlanganyeli ngo*Msebenzi obuyiselwa esikolweni* osekupheleni kwesiFundobandulo 8.
♦ Layela abahlanganyeli **Umsebenzi 1** no-**2** bese ufunda imilayelo yoke. Abahlanganyeli benza umsebenzi ngeenqhema. Iinqhema zizakwabelana ngamaphuzu aqakathekileko nesiqhema esikhulu.
♦ Ngemva kwemikhulumiswano yesiqhema esincani, thatha imibono yesiqhema ngasinye. Rhunyeza okuphumeleleko neentjhijilo bese nikhulumisana ngemithintela yokwenziwa komsebenzi ngetlasini.

Umsebenzi obuyiselwa esikolweni wesiFundobandulo 8, ufuna bona wenze okulandelako:

♦ Sebenzisa *umHlahlandlela wemiSebenzi: Ithemu 3* ukuhlela nokwenza Ithemu 3 Iimveke 4–6 zeHlelo leemBalo.

♦ Tlola imibono ngencwadini oyisebenzisela ukubulunga ilandelelo leragelophambili lomfundi ngamunye (incwadi yokutjheja abafundi), bese usebenzisa irhelo lokutjheja '**Tjheja bonyana abafundi bayakwazi uku**' ngesikhathi somsebenzi ohlahlwa ngutitjhere ngamunye ukuhlahla ukutjheja kwakho nemibono yakho.

♦ Tlola amanothi walokho okusebenze kuhle, lokho okungakasebenzi kuhle nokobana uzirarulule njani iintjhijilo nofana ngezinjani ngesikhathi sokwenza Ithemu 3 Iimveke 4–6.

Emisebenzini elandelako sebenzisa incwadi yakho yokutjheja abafundi namanothi owenze lokha nawuzindla ngokufundisa kwelanga ngalinye.

Activity 1

1. In your group, share your successes and challenges with implementing the Maths Programme in Term 3 Weeks 4–6. Share strategies for improving teaching and learning for the challenges you identified.

    _____
    _____
    _____

2. Discuss your use of the **'Check that learners are able to'** observation list (in the eye box) during each of the teacher-guided activities.
    Show members of your group your learner observation book.
    Select one learner and discuss your observations of this learner's progress.

    _____
    _____
    _____
    _____
    _____
    _____

3. Write the main points of your discussion on flipchart paper. Report back on your discussion to the large group.

Video 1

Watch the video of a teacher working with a small group of learners during the teacher-guided activity in Term 3 Week 6. The focus of our observation in this workshop is on how the teacher mediates the number activities.

Observe how the teacher works through the six activities. Notice:

♦ how she poses problems
♦ the language she uses when asking questions
♦ how she sets up each activity
♦ the questions she asks to guide the learners.

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_____
_____
_____

👥 Umsebenzi 1

1. Esiqhemeni senu, yabelanani ngokuphumeleleko neentjhijilo zokusebenzisa iHlelo leemBalo ngeThemu 3 Iimveke 4–6. Yabelanani ngamano wokuthuthukisa ukufundisa nokufunda mayelana neentjhijilo enizivezileko.

_____
_____
_____

2. Hlathulula ngokusebenzisa kwakho irhelo lokutjheja '**Tjheja bonyana abafundi bayakwazi uku**' (ngebhoksini lelihlo) ngesikhathi semisebenzi ehlahlwa ngutitjhere.

   Khombisa amalunga wesiqhema sakho incwadi yakho yokutjheja abafundi. Khetha umfundi munye bese uhlathulula ngalokho okutjhejileko ngeragelophambili lomfundi lowo.

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_____
_____
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_____

3. Tlolani amaphuzu wenu aqakathekileko wemikhulumiswano yenu etjhadini lephepha eliphendlekako. Bikani ngemikhulumiswano yenu esiqhemeni esikhulu.

🎥 Ividiyo 1

UmHlahlandlela wemiSebenzi: Ithemu 3, Iveke 6, Umsebenzi ohlahlwa ngutitjhere (amakhasi 114–117)

Bukelani ividiyo katitjhere osebenza nesiqhema esincani sabafundi ngesikhathi somsebenzi ohlahlwa ngutitjhere kuThemu 3 Iveke 6. Umnqopho wokutjheja kwethu kilesi sifundobandulo usekutheni utitjhere ufundisa njani imisebenzi yenomboro.

Tjheja bonyana utitjhere usebenza njani phakathi kwemisebenzi esithandathu. Yelela:

♦ uyithula njani imiraro
♦ ilimi alisebenzisako lokha nakabuza imibuzo
♦ uwuhlela njani umsebenzi ngamunye
♦ imibuzo ayibuzako ukuhlahla abafundi.

_____
_____
_____
_____

_____
_____
_____
_____

Activity 2

Refer to the teacher-guided activity (pages 114–117) in Week 6 of *Activity Guide: Term 3*.

1. Discuss how you managed this teacher-guided activity with your class.

_____
_____
_____

2. Did you face any challenges? If so, how did you solve them?

_____
_____
_____

Facilitator's notes

Show the video and lead a discussion based on the maths activities and questions. If participants do not mention the following points, add them to the discussion.

♦   The activities are short. The teacher doesn't linger unnecessarily when handing out apparatus or talk to one learner for too long. Transitions are quick and the teacher manages the six activities within the allocated time.
♦   Both the questions asked and language used are clear and concise.
♦   Activities build on previous knowledge and expand new ideas.
♦   Listening to and observing **each** learner provides insight into their progress. It helps you to identify their abilities and the gaps in their skill and/or understanding.

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👥 Umsebenzi 2

Qala umsebenzi ohlahlwa ngutitjhere (amakhasi 114–117) Iveke 6 yo*mHlahlandlela wemiSebenzi: Ithemu 3.*

1. Hlathulula bonyana uwulawule njani umsebenzi ohlahlwa ngutitjhere netlasi yakho.

_____
_____
_____

2. Ingabe kuneentjhjilo ohlangabezene nazo? Nangabe kunjalo, uzirarulule njani?

_____
_____
_____

Amanothi womkghonakalisi
Khombisa ividiyo bese udosa phambili imikhulumiswano ngemisebenzi nemibuzo yeembalo. Nangabe abahlanganyeli abatjho amaphuzu alandelako, afake emikhulumiswaneni.

♦ Imisebenzi mifitjhani. Utitjhere akathathi isikhathi eside ngokungadingekiko lokha nakakhupha iinsetjenziswa nofana akhulume nomfundi oyedwa isikhathi eside. Ukutjhuguluka kwenzeka msinyana begodu notitjhere ukghona ukulawula imisebenzi esithandathu ngesikhathi esabiweko.

♦ Kokubili imibuzo ebuzwako nelimi elisetjenziswako kutsengile begodu kunqophile.

♦ Imisebenzi yakhela phezu kwelwazi langaphambili begodu inabisa imibono emitjha.

♦ Ukulalela nokutjheja umfundi **ngamunye** kunikela ukuzwisisa ukuthuthuka kwabo. Kukusiza ukubona amakghono neenkhala emakghonweni wabo begodu/nofana ukuzwisisa.

Session 1: Numbers, Operations and Relationships

<div align="right">**1 hour**</div>

In previous workshops we have discussed the Numbers, Operations and Relationships Content Area. In this session we will revisit different number topics and expand our discussion to further understand number concept. We will explore the following aspects of number and connect them to classroom practice:

♦   oral counting
♦   subitising
♦   representing number
♦   counting objects
♦   ordinal numbers
♦   calculating.

Oral counting

Facilitator's notes
♦   Oral counting involves saying the number words in order. Learners sequence numbers during routine oral counting activities and during transitions. Songs, rhymes and actions make oral counting fun while learning the order of the numbers. Once learners can repeat a sequence of numbers in the correct counting order, they begin to talk about the relationship between the numbers, e.g., which number is before, between or after another number.
♦   Choose one group to present their **Activity 3** discussion.

Children learn the correct order of number words as they play, sing, and repeat rhymes.

As we know, oral counting involves saying the number words in order. Learners sequence numbers during routine oral counting activities and during transitions. Songs, rhymes and actions make oral counting fun, but the focus is on the order of the numbers. Once learners can repeat a sequence of numbers in the correct counting order, they begin to talk about the relationship between the numbers, e.g., which number is *before*, *between* or *after* another number.

Activity 3

In your group, discuss how the following activities have promoted learning the sequence of counting words in your class:

♦   songs and rhymes
♦   number washing line
♦   jumping tracks.

Isetjhini 1: Iinomboro, ama-Opharetjhini noBudlelwana

Iimfundobandulo ezidlulileko sikhulumisene ngesiGaba sokuMumethweko seeNomboro, ama-Opharetjhini noBudlelwana. Kilesetjhini sizakubuyelela iinhloko zenomboro ezihlukileko bese sinabisa imikhulumiswano yethu ngokuya phambili nokuzwisisa umqondo wenomboro. Sizakuhlola amaphuzu wenomboro alandelako bese siwahlanganisa nokujayeza kwangetlasini:

♦   ukubala ngomlomo
♦   ukusabithayiza
♦   ukujamiselela inomboro
♦   ukubala izinto
♦   iinomborosikhundla
♦   ukubala.

Ukubala ngomlomo

Amanothi womkghonakalisi
♦   Ukubala ngomlomo kubandakanya ukutjho iinomboromagama ngerhemo. Abafundi balandelanisa iinomboro ngesikhathi semisebenzi yekambiso yokubala ngomlomo nangesikhathi sokutjintja. Iingoma, imilolozelo nezenzo kwenza ukubala ngomlomo kubemnandi lokha bafunda irhemo leenomboro. Lokha abafundi nasele bakwazi ukubuyelela ilandelano leenomboro ngerhemo lokubala elifaneleko, bathoma ukukhuluma ngobudlelwana phakathi kweenomboro, isib., ngiyiphi inomboro engaphambili, ephakathi nofana engemuva kwenye inomboro.
♦   Khetha isiqhema sinye ukwethula imikhulumiswano yaso yo**Msebenzi 3.**

Abantwana bafunda irhemo leenomboromagama elifaneleko lokha nabadlalako, bavuma, nalokha nababuyelela imilolozelo.

Njengombana sazi, ukubala ngomlomo kubandakanya ukutjho iinomboromagama ngerhemo. Abafundi balandelanisa iinomboro ngesikhathi semisebenzi yekambiso yokubala nangesikhathi sokutjintja. Iingoma, imilolozelo nezenzo kwenza ukubala ngomlomo kubemnandi, kodwana umnqopho uphezu kwerhemo leenomboro. Lokha abafundi nasele bakwazi ukubuyelela ilandelano leenomboro ngerhemo lokubala elifaneleko, bathoma ukukhuluma ngobudlelwana phakathi kweenomboro, isib., ngiyiphi inomboro *engaphambili, ephakathi nofana engemuva* kwenye inomboro.

Umsebenzi 3

Esiqhemeni sakho, khulumisanani ngokobana imisebenzi elandelako ilithuthukise njani ilandelano lokufunda amagama wokubala ngetlasini lakho:
♦   iingoma nemilolozelo
♦   idrada yokweneka yeenomboro
♦   umzila wokweqa.

17

_____
_____
_____
_____
_____

Activity 4

Read the information on pages 138–143 and look at the diagram at the top of pages 144–145 of the *Concept Guide*.

In your group, discuss the following aspects of number:

♦   different 'meanings' of number

_____
_____
_____
_____

♦   different kinds of numbers

_____
_____
_____
_____

Learners in Grade R work mostly with the whole numbers 0, 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10. (In Grade 1 this is extended to 20 and beyond.) We focus on counting and representing number in different ways and provide opportunities for learners to engage with numbers in different contexts.

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_____

 Umsebenzi 4

Fundani ilwazi elisemakhasini 138–143 bese niqala umdwebo ophezulu emakhasini 44–145 *womHlahlandlela womQondo*.

Esiqhemeni senu, khulumisanani ngamaphuzu alandelako wenomboro:

♦   'iinhlathululo' zenomboro ezihlukileko

_____
_____
_____
_____

♦   imihlobo ehlukileko yeenomboro

_____
_____
_____
_____

Abafundi beGreyidi R basebenza khulu ngeenomboro ezipheleleko 0, 1, 2, 3, 4, 5, 6, 7, 8, 9 ne-10. (KwaGreyidi 1 lokhu kuyanabiswa ukufika ema-20 nangaphezulu.) Sinqophana nokubala nokujamiselela inomboro ngeendlela ezihlukileko bese sinikela abafundi amathuba wokuzibandakanya neenomboro ebujameni obuhlukileko.

Subitising

- ◆ Use the dot cards from the *Resource Kit*.
- ◆ Ask participants to tell you 'how many' they see as you flash each dot card quickly:
  - Show a card with 3 dots.
  - Show a card with 2 dots.
  - Hold the above cards alongside each other.
- ◆ Explain what subitising is (*Concept Guide* pages 144–147) and discuss how this skill benefits children as they learn about number:
  - Learners associate number names with small collections.
  - Learners recognise the total in a collection (up to five) without counting.
  - Learners start to recognise that, for example, 'five and one is six'.
  - It builds number sense.
  - Learners understand that a number can be broken down and built up. (These number combinations lay the foundation for bonds.)
  - It builds the memorisation and automation of number facts.
- ◆ Discuss classroom activities that reinforce subitising. These include:
  - dot card activities
  - structure beads
  - dice games
  - dominoes
  - shake-and-break activities.

Activity 5

Observe the facilitator. Each time she/he flashes a card, say as quickly as you can 'how many' dots you see.

1. Did you count each dot one by one? Why not?

_____
_____
_____
_____

2. What do you think the benefit is of reinforcing the skill of subitising?

_____
_____
_____
_____

Ukusabithayiza

Umsebenzi 5

Tjheja umkghonakalisi. Ngaso soke isikhathi nakakhombisa ikarada, yitjho msinyana ngendlela ongakghona ngayo bonyana 'mangaki' amaqatjhazi owabonako.

1. Ubale iqatjhazi linye ngalinye? Kuba yini?

   _____
   _____
   _____
   _____

2. Ucabanga bonyana khuyini inzuzo yokugandelela ikghono lokusabithayiza?

   _____
   _____
   _____
   _____

3. What activities that reinforce the ability to subitise have you used in your Term 1 and 2 maths sessions?

_____
_____
_____
_____

Refer to pages 144–147 of the *Concept Guide*.

Representing number

Facilitator's notes
♦ PPT: Animation of the diagram in this section that shows the link between a number and its different representations.
♦ Explain the concept of number as detailed below.
♦ Explain that learners need to understand each component in order to make the connection between them.
1. The '5' in the centre of the diagram is the number 5, and this is an abstract idea.
2. Learners need to be able to represent the concept of 5 as a collection, using concrete manipulatives, like counters, to represent the number 5.
3. Learners then need to learn that '5' can be written as a symbol and that the symbol 5 also represents the collection (of counters).
4. Learners then need to learn that the number word 'five' can be written to represent the symbol and the collection.
5. Finally, learners need to make the connection between these different representations of five to fully understand the concept.

A number is an abstract concept. It is an idea that exists in your head. We can't see numbers, so we have to find different ways to represent (show) the number that is being referred to. Learners need to make the connection between the idea of a number, e.g., 5, and its different representations, like a collection of objects, a symbol, a word. They also need to understand that if we say, 'how many' sweets, claps, houses, birthdays, etc., five always refers to the same number of these things.

Learners need to internalise the 'how muchness' or numerosity of the number. To communicate this concept to learners, teachers need to introduce the idea using concrete objects, for example, counters. To help learners understand the concept of a number, they need to realise that numbers can be represented in different ways. Learners also need to make the connection between different representations of the number, for example an object, picture, symbol and word.

3. Ngimiphi imisebenzi egandelela ikghono lokusabithayiza olisebenzisileko
    Kusetjhini yeembalo kuThemu 1 neye-2?

_____

_____

_____

_____

Qala amakhasi 144–147 wo*mHlahlandlela womQondo*.

Ukujamiselela inomboro

Amanothi womkghonakalisi

♦   PPT: Iintombe zedayagramu esigabeni lesi ezikhombisa ukukhambelana kwenomboro nokujanyiselelwa kwayo okuhlukileko.
♦   Hlathulula umqondo wenomboro njengokwemininingwana engenzasi.
♦   Hlathulula bonyana abafundi kufanele bezwisise ingcenye ngayinye kobana kube nokuhlangana phakathi kwazo.
   1. U-'5' ophakathi komdwebo yinomboro 5, begodu lokhu kumbono ongaphathekiko.
   2. Abafundi kufanele bakwazi ukujamiselela umqondo ka-5 njengebuthelelo, ngokusebenzisa izinto eziphathekako, njengeembalisi, ukujamiselela inomboro 5.
   3. Abafundi kufanele bafunde bonyana u'5' angatlolwa njengetshwayo nokobana itshwayo 5 godu ujamela ibuthelelo (leembalisi).
   4. Abafundi kufanele bafunde bonyana inomborogama 'kuhlanu' lingatlolwa ukujamiselela itshwayo nebuthelelo.
   5. Kokugcina, abafundi kufanele benze ukuhlobana phakathi kweenjamiseleli lezi ezihlukileko zika kuhlanu ukuzwisisa umqondo ngokuzeleko.

Inomboro imqondo ongaphathekiko. Imbono ohlala ngehlokweni yakho. Asikwazi ukubona iinomboro, ngalokho kufanele sithole iindlela ezihlukileko zokujamiselela (ukukhombisa) inomboro leyo ekukhulunywa ngayo. Abafundi kufanele benze ubuhlobo phakathi kombono wenomboro, isib., 5, neenjamiseleli zayo ezihlukileko, njengebuthelelo lezinto, itshwayo, igama. Godu kufanele bezwisise bonyana nangabe sithi, 'mangaki' amaswidi, ukuwahla, izindlu, amalanga wokubelethwa, njll., kuhlanu kuhlala kuqalise enomborweni efanako yezinto lezi.

Abafundi kufanele bacabangisise 'ubungaki' nofana ubunengi benomboro. Ukudlulisela umqondo lo kubafundi, abotitjhere kufanele bathule ilwazi leli ngokusebenzisa izinto eziphathekako, isibonelo, iimbalisi. Ukusiza abafundi bezwisise umqondo wenomboro, kufanele bayelele bonyana iinomboro zingajanyiselelwa ngeendlela ezihlukileko. Abafundi godu bafanele benze ubudlelwana phakathi kweenjamiseleli ezihlukileko zenomboro, isibonelo, into, isithombe, itshwayo negama.
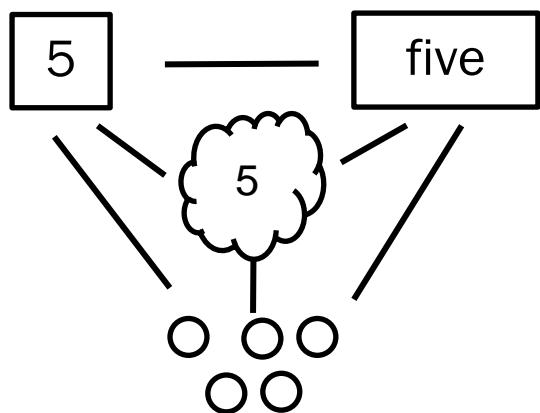
Facilitator's notes

♦ Discuss how the idea of multiple representations informs the methodology of introducing a number through a story in the Maths Programme.

♦ Remind participants of the routine used for teaching each number:
  - Number frieze and story: build the house by showing the picture/s, house number, doorbell/s and number word.
  - Matching objects, number symbols, number words and dot cards.
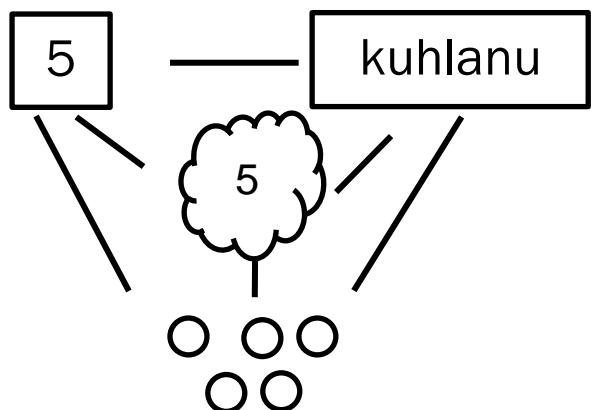
Session 2: Numbers, Operations and Relationships (continued) 1 hour

Counting objects

Facilitator's notes
♦ Allow 40 minutes for this section of Session 2.
♦ PPT: Summarise the counting principles (*Concept Guide* page 148–149). Present them one at a time. These counting principles are the basis of learning to count. Once learners can apply these principles, we can say that they are able to count. Highlight that learners need to be able to demonstrate all five of the counting principles before we can say that they are able count.
♦ Ask participants to use the apparatus on the table to demonstrate their understanding of each of the counting principles.
♦ To consolidate, demonstrate each principle to the whole group.
♦ Discuss the daily classroom activities that reinforce the counting of objects that participants have done in Terms 1 and 2.
♦ Read the 'In practice' box on page 150 of the *Concept Guide* to explain how learners progress as they learn to count and combine groups of objects.

To count '**how many**', learners need to realise that each object in a group has a number name and that you count each object only once.

There are five counting principles that describe the process of learning to count. Once learners have understood and can apply all five of these counting principles, we are able to say that they can count.

Activity 6

Read the information on pages 148–151 of the *Concept Guide*.

1. Use the apparatus provided to demonstrate these principles as they are explained in the *Concept Guide*.

2. Discuss each principle in your group and make your own notes in the table below to explain your understanding of each principle.

One-to-one correspondence principle	
Stable order principle	

Isetjhini 2: Iinomboro, ama-Opharetjhini noBudlelwana (kuyaraga)

Ukubala izinto

Amanothi womkghonakalisi
♦ Vumela sigaba lesi seSetjhini 2 imizuzu ema-40.
♦ PPT: Rhunyeza imithethokambiso yokubala (*UmHlahlandlela womQondo* ikhasi 148–149). Yethula munye ngesikhathi sinye. Imithethokambiso le isisekelo sokufunda ukubala. Abafundi nasele bakwazi ukusebenzisa imithethokambiso le, singatjho bonyana bayakwazi ukubala. Veza bonyana abafundi kufanele bakwazi ukutjengisa yomihlanu imithethokambiso yokubala ngaphambi kobana singatjho bona bayakwazi ukubala.
♦ Bawa abahlanganyeli basebenzise iinsetjenziswa ezisetafuleni ukutjengisa ukuzwisisa kwabo umthethokambiso wokubala ngamunye.
♦ Ukuhlanganisa, tjengisa umthethokambiso ngamunye esiqhemeni soke.
♦ Khulumisanani ngemisebenzi yangamalanga yangetlasini egandelela ukubala izinto eyenziwe bahlanganyeli ngeThemu 1 ne-2.
♦ Funda ibhoksi 'Kuyenziwa' ikhasi 151 *lomHlahlandlela womQondo* ukuhlathulula bonyana abafundi baragela njani phambili lokha nabafunda ukubala nokuhlanganisa iinqhema zezinto.

Ukubala bonyana **'kungaki'**, abafundi kufanele balemuke bonyana into ngayinye esiqhemeni inegama lenomboro nokobana ubala into ngayinye kanye kwaphela.

Kunemithethokambiso yokubala emihlanu etlhadlhula ikambiso yokufunda ukubala. Abafundi nasele bazwisa begodu bakwazi ukusebenzisa yomihlanu imithethokambiso yokubala le, singakwazi ukutjho bonyana bayakwazi ukubala.

🧑‍🤝‍🧑 **Umsebenzi 6**

Funda ilwazi elisemakhasini 148–151 *womHlahlandlela womQondo*.

1. Sebenzisa iinsetjenziswa ezinikelweko ukutjengisa imithethokambiso le njengombana ihlathulwe *kumHlahlandlela womQondo*.

2. Khulumisanani ngomthethokambiso ngamunye esiqhemeni senu bese nenza amanothi wenu ethebuleni engenzasi ukuhlathulula ukuzwisisa kwenu umthethokambiso ngamunye.

Umthethokambiso wokukhambelanisa kunye kokunye	
Umthethokambiso werhemo elinzinzileko	

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Cardinal principle	
Abstraction principle	
Order-irrelevance principle	

Ordinal numbers

We have discussed the kinds of numbers that tell you 'how many'. These are called **cardinal numbers**.

There are also numbers that indicate the position of something or someone in a series or order. These are called **ordinal numbers**.

Facilitator's notes

- Allow 20 minutes for this section of Session 2.
- Participants select six animal counters from the *Resource Kit* and arrange these in a row, facing left.
- Ask these questions:
  - Which animal is first?
  - Which animal is second?
  - Where is the chicken placed?
  - Which animal is next?
  - What is the colour of the third animal?
  Note: Participants will have different arrangements of animals, so allow them to give answers according to the order of the animals in their arrangement.
- Ask participants to turn the animals so that they are facing right.
- Repeat the above questions.
- Discuss how ordinal numbers can be practised during daily routines and activities, e.g., while lining up or when doing outdoor races.
- Refer to the number washing line. Ask which number is *first*, *second*, *next to*, *before*.

Activity 7

Arrange the animal counters on your table according to the facilitator's instructions. Answer her/his questions about the position of the animal counters.

_____
_____
_____
_____

Umthethokambiso wekhadinali	
Umthethokambiso wokuhlukanisa	
Umthethokambiso ongakaphathelani nerhemo	

Iinomborosikhundla

Khesakhulumisana ngemihlobo yeenomboro ekutjela bonyana 'kungaki'. Lezi zibizwa ngokobana **ziinomboro zekhadinali**.

Kukhona godu iinomboro ezitjengisa isikhundla sento nofana somuntu elandelanweni nofana erhemeni. Lezi zibizwa ngokobana **ziinomborosikhundla**.

Amanothi womkghonakalisi
♦ Vumela isigaba lesi seSetjhini 2 imizuzu ema-20.
♦ Abahlanganyeli bakhetha iimbalisi zeenlwana ezisithandathungaphakathi kwe*Khidi yeenSetjenziswa* bese bazihlela ngereyi, ziqale ngesinceleni.
♦ Buza nasi imibuzo: - Ngisiphi isilwana esingesokuthoma?   - Ngisiphi isilwana esingesesibili?   - Ibekwe kuphi ikukhu?   - Ngisiphi isilwana esilandelako?   - Unjani umbala wesilwana sesithathu?   Tjheja: Abahlanganyeli bazakuhlela iinlwana ngokuhlukileko, ngalokho bavumele banikele iimpendulo ngokuya ngokwerhemo leenlwana ehlelweni labo.
♦ Bawa abahlanganyeli batjhugulule iinlwana ziqale ngesidleni.
♦ Buyelela imibuzo engehla.
♦ Khulumisanani ngokobana iinomborosikhundla zingajayezwa njani ngesikhathi sekambiso yangamalanga nemisebenzi, isib., lokha kujanywa umjeje nofana kwenziwa imijarho yangaphandle.
♦ Qala idrada yokweneka yeenomboro. Buza bonyana ngiyiphi inomboro *yokuthoma, yesibili, eseduze kwe-/ne-, ngaphambili*.

 Umsebenzi 7

Hlelani iimbalisi zeenlwana etafuleni yenu ngokuya ngokwemilayelo yomkghonakalisi. Phendulani imibuzo yakhe emayelana nesikhundla seembalisi zeenlwana.

_____
_____
_____
_____

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Session 3: Calculation in Grade R   1 hour

Learners need to understand the value of numbers and the relationships between them before they can do operations like addition and subtraction. They need to know, for example, 'how many' three is; 3 comes before 4, after 2 and between 2 and 4; and 3 is one more than 2 and one less than 4.

Working with counters, structure beads, dot cards, and the shake-and-break game provides opportunities for learners to understand that numbers can be built up or broken down. In this way, they gradually recognise that any number is made up of many different combinations of other numbers. For example, number 5 can be made up of:

♦   4 and 1
♦   1 and 1 and 1 and 2
♦   0 and 5.

In Grade R, learners explore different ways of building up and breaking down numbers, and adding and subtracting using counters.

Activity 8

Read the information on pages 154–156 of the *Concept Guide*.

Think about how you have used the materials provided in the Maths Programme to help learners understand number operations (calculations) and relationships. Use the materials to demonstrate this.

Isetjhini 3: Ukubala kwaGreyidi R

Amanothi womkghonakalisi s

♦   Khulumisanani ngokubala kwaGreyidi R ngokurhunyeza umtlolo ongenzasi.
♦   **Umsebenzi 8:** Nikela isiqhema esincani ngasinye umhlobo ohlukileko weensetjenziswa:
   - iimbalisi
   - imincamo ehlelekileko
   - amakarada wamaqatjhazi
   - amabhlogo we-*Unifix*.
   Yelela: Uzakuba neenqhema ezingaphezulu kwesisodwa ezinemihlobo efanako yeensetjenziswa.
♦   Ngemva kobana isiqhema ngasinye sitjengisile, khulumisanani ngeendlela ezihlukileko abafundi abathola ngazo iinhlanganisela zenomboro ngokwakha nokuhlukanisa iinomboro.
♦   Veza bonyana ukuzwisisa iinomboro ezikulu ku-5 kusekelwe phezu komqondo wenomboro ofundiweko wenomboro 5 nangaphasi. Zindla ngokobana Ithemu 1 neye-2 zinikele njani ilemuko lokufunda mayelana neenomboro 1–5. Lokhu kwakha isisekelo sokuzwisisa iinomboro ezikulu ku-5.

Abafundi kufanele bezwisise ukuqakatheka kweenomboro nobudlelwana phakathi kwazo ngaphambi kobana benze imisebenzi efana nokuhlanganisa nokukhupha. Kufanele bazi, isibonelo, 'kungaki' kuthathu; u-3 uza ngaphambi kuka-4, ngemva ko-2 naphakathi kuka-2 no-4, begodu u-3 ungaphezulu ngakunye ku-2 bese uba ngaphasi ngakunye ku-4.

Ngokusebenza ngeembalisi, imincamo ehlalakileko, amakarada wamaqatjhazi, nomdlalo khuhluza uhlukanise kunikela abafundi amathuba wokuzwisisa bonyana iinomboro zingakhiwa nofana zingahlukaniswa. Ngalendlela, kancanikancani bayabona bonyana nofana ngiyiphi inomboro yakhiwe ngeenhlanganisela ezinengi ezihlukileko zeenomboro ezinye. Isibonelo, inomboro 5 ingakhiwa ngu:

♦   4 no-1
♦   1 no-1 no-1 no-2
♦   0 no-5.

KwaGreyidi R, abafundi bahlola iindlela ezihlukileko zokwakha nokuhlukanisa iinomboro, nokusebenzisa iimbalisi ukuhlanganisa nokukhupha.

Umsebenzi 8

Funda ilwazi elisemakhasini 154–156 wo*mHlahlandlela womQondo*.

Cabanga ngokobana uyisebenzise njani imethiriyeli enikelweko yeHlelo leemBalo ukusiza abafundi ukuzwisisa ama-opharetjhini weenomboro (ukubalisisa) nobudlelwana. Sebenzisa imethiriyeli ukutjengisa lokhu.

1. How do learners explore the concept of number in the Maths Programme using the materials provided?

2. What questions could you ask that would guide their learning? (Refer to page 156 of the *Concept Guide* for examples of questions.)

_____

_____

_____

_____

Prepare to present your discussion to the whole group.

Word problems

Facilitator's notes
♦ Briefly reflect on word problems and questions discussed in Workshop 6. Explain that when we talk about word problems, we are not referring to open-ended questions. Word problems or 'story sums' are situations/contexts that require Grade R learners to apply addition, subtraction, sharing and grouping strategies.
♦ In groups, participants solve the word problems in **Activity 9**.
♦ For each word problem, discuss their responses to the questions.
♦ Remind participants that the language used needs to be simple and clear. The confusion and difficulty that learners experience when solving word problems is often a result of the language structure used to express the problem, rather than a lack of mathematical understanding.

Grade R learners need to orally solve word problems involving addition, subtraction, and equal sharing and grouping. They also need to explain their own reasoning and ways of solving different problems.

Give learners plenty of time to think and let them use real objects (e.g. counters, fingers, structure beads) to solve the problems and check their answers.

When presenting a word problem to learners, it is important to encourage them to:
♦ find a strategy to solve the problem
♦ explain how they solved the problem
♦ say why they think their answer is correct.

Common addition and subtraction contexts can be presented as word problems. The way that the word problem is structured, determines how easy or difficult it is to solve. It is important to use clear, simple language when presenting word problems.

1. Abafundi bawuhlola njani umqondo wenomboro eHlelweni leemBalo ngokusebenzisa imethiriyeli enikelweko?

2. Ngimiphi imibuzo ongayibuza engahlahla ukufunda kwabo? (Qala ikhasi 157 *lomHlahlandlela womQondo* ukuthola iimbonelo zemibuzo.)

_____
_____
_____
_____

Zilungiseleleni ukwethula imikhulumiswano yenu esiqhemeni esipheleleko.

Imiraro yamagama

Amanothi womkghonakalisi
♦ Zindla kafitjhazana ngemiraro yamagama nemibuzo ekukhulunywe ngayo kusiFundobandulo 6. Hlathulula bonyana lokha nasikhuluma ngemiraro yamagama, asitjho imibuzo evulekileko. Imiraro yamagama nofana 'iimbalo zeendatjana' zibujamo/ubunjalo obufuna abafundi beGreyidi R basebenzise amano wokuhlanganisa, ukukhupha, ukwaba nokwenza iinqhema.
♦ Ngeenqhema, abahlanganyeli bararulula imiraro yamagama ku**Msebenzi 9**.
♦ Emrarweni wegama ngamunye, khulumisanani ngeempendulo zabo zemibuzo le.
♦ Khumbuza abahlanganyeli bonyana ilimi elisetjenziswako kufanele libe lula begodu litsengeke. Ukuhlangahlangana nobunzima abafundi abahlangabezana nabo lokha nabararulula imiraro yegama kuvame ukubangelwa lilimi elisetjenzisiweko ukuveza umraro, kunokungezwisisi iimbalo.

Abafundi bakwaGreyidi R kufanele bararulule imiraro yegama ngomlomo ngokubandakanya ukuhlanganisa, ukukhupha, nokwabelana ngokulinganako nokwenza iinqhema. Godu bafanele bahlathulule ikghono labo lokucabanga neendlela zokurarulula imiraro ehlukileko.

Nikela abafundi isikhathi esaneleko sokucabanga bese ubavumela ukusebenzisa izinto zamambala (isib. iimbalisi, imino, imincamo ehlelekileko) ukurarulula imiraro nokuhlola iimpendulo zabo.

Lokha nawethula umraro wegama kubafundi, kuqakathekile ukubakhuthaza ngalokhu:
♦ ukuthola amano wokurarulula umraro
♦ ukuhlathulula bonyana bawurarulule njani umraro
♦ ukutjho bonyana kubayini bacabanga bona ipendulo yabo ilungile.

Ubujamo obujayelekileko bokuhlanganisa nokukhupha bungathulwa njengemiraro yegama. Indlela umraro wegama wakhiwe ngakhona, ilawula bonyana kululula nofana kubudisi kangangani ukuwurarulula. Kuqakathekile ukusebenzisa ilimi elitsengileko, elilula lokha nawethula umraro wegama.

In Workshop 6 we looked at the importance of using clear, simple language and asking appropriate questions during problem-solving activities. We also designed real-world problems in contexts that learners could relate to. In Activity 9, you will discuss problem solving in more detail.

Activity 9

1. Look at the word problems below.
♦ How would you solve each problem?
♦ How do you think your Grade R learners would solve each problem?
♦ Why are some of these problems more difficult than others?
♦ Use the counters on your table to show how learners would solve the problems.

Combine	Separate
Laylah has 6 sweets. Malusi gives her 2 more. How many sweets does Laylah have altogether?	There are 8 sweets. Laylah eats 3 sweets. How many are left for Malusi?
Laylah has 5 sweets. How many more does she need to have 8?	Laylah has 8 sweets. Malusi eats some. There are 4 left. How many did Malusi eat?
Laylah had some sweets. Malusi gives her 2 more. Now she has 8. How many did Laylah start with?	Laylah had some sweets. She gave 6 sweets to Malusi. She has 2 sweets left. How many sweets did she start with?

2. Write a word problem that you could present to your Grade R learners for each of the following:

KusiFundobandulo 6 siqale ukuqakatheka kokusebenzisa ilimi elitsengileko, elilula nokubuza imibuzo efaneleko ngesikhathi semisebenzi yokurarulula imiraro. Godu sitlame imiraro yephasi lamambala ebujameni abafundi ababuzwisisako. Umsebenzi 9, nizakukhulumisana ngokurarulula umraro ngokunabileko.

Umsebenzi 9

1. Qala imiraro yamagama engenzasi.
♦ Uzawurarulula njani umraro ngamunye?
♦ Ucabanga bonyana abafundi bakho bakwaGreyidi R bazawurarula njani umraro ngamunye?
♦ Kubayini eminye yemiraro le ibudisi kuneminye?
♦ Sebenzisa iimbalisi ezisetafuleni yakho ukutjengisa bonyana abafundi bangayirarulula njani imiraro le.

Hlanganisa	Hlukanisa
ULaylah unamaswidi asi-6. UMalusi umnikela amanye ama-2. Mangaki amaswidi uLaylah anawo nasele awoke?	Kunamaswidi abu-8. ULaylah udla amaswidi ama- 3. Mangaki amaswidi asalele uMalusi?
ULaylah unamaswidi ama-5. Mangaki amanye awadingako kobana abe namaswidi abu-8?	ULaylah unamaswidi abu-8. UMalusi udla amanye. Kusele amaswidi ama-4. UMalusi udle mangaki?
ULaylah bekanamaswidi. UMalusi umnikela amanye ama-2. Kwanjesi unamaswidi abu-8. ULaylah uthome ngamaswidi amangaki?	ULaylah bekanamaswidi. Unikela uMalusi amaswidi asi-6. Usele namaswidi ama-2. Uthome ngamaswidi amangaki?

2. Tlola umraro wamagama ongawuthula kubafundi bakho beGreyidi R walokhu okulandelako ngakunye:

Addition: 4 + 5 =

_____
_____
_____
_____

Subtraction: 7 – 3 =

_____
_____
_____
_____

Equal sharing without a remainder: 8 shared between 4 learners

_____
_____
_____
_____

Equal sharing with a remainder: 5 shared between 2 learners

_____
_____
_____
_____

Facilitator's notes
♦ PPT: The 'combine' and 'separate' table.

♦ In Grade R, most learners will solve problems using these strategies or techniques:
  - counting all
  - using counters or fingers to represent the collections being combined or separated.
  Very few learners will count on from the biggest number because this level of number knowledge is still being developed.

♦ Ask participants to share their examples with the whole group.

Ukuhlanganisa: 4 + 5 =

_____
_____
_____
_____

Ukukhupha: 7 – 3 =

_____
_____
_____
_____

Ukwaba kungabi nesalela: ku-8 kwabelwa abafundi aba-4

_____
_____
_____
_____

Ukwabelana okulinganako okunesalela: ku-5 kwabelwa abafundi aba-2

_____
_____
_____
_____

Amanothi womkghonakalisi
◆ PPT: Itafula yoku 'hlanganisa' noku 'hlukanisa'.
◆ KwaGreyidi R, abafundi abanengi bazakurarulula imiraro ngokusebenzisa amano namaqhinga lawa: - ukubala koke   - ukusebenzisa iimbalisi nofana imino ukujamiselela amabuthelelo ahlanganisiweko nofana ahlukanisiweko.   Bafundi abambalwa khulu abazakubala ukusuka enomborweni ekulu khulu ngombana izinga leli lelwazi leenomboro lisathuthukiswa.
◆ Bawa abahlanganyeli babelane ngeembonelo zabo nesiqhema soke.

Session 4: Planning for teaching   1½ hours

This workshop session prepares participants for implementing Term 3 Weeks 7–10. By this stage of the year, the teacher will have noticed distinct differences between learners' levels of progress. Term 3 builds on the content of Terms 1 and 2. Some learners will be ready for this, while others will need support and more consolidation to progress. It is important to plan and prepare for this difference in learner competence to ensure that all the content and skills of Grade R Mathematics are covered, and learners are well prepared for Term 4.

Facilitator's notes

Show the video and discuss the challenges and opportunities for differentiated teaching and learning in Grade R. If participants do not mention the following points, add them to the discussion.

♦   Learners can all do the same activity, but easier questions can be posed.
♦   The teacher can offer more guidance to slower/weaker learners and encourage more advanced learners to discuss their reasoning.
♦   Learners can be placed in ability groups for some activities and in mixed-ability groups for other activities.
♦   Observation and the recording of observation are important. They enable the teacher to have insight into each learner's progress and to know how to assist learners.

Video 2

Video 1 edited to include a teacher talking about how she manages differentiated teaching and learning, and assessment in her class.

Watch the video of a teacher discussing how she deals with the range of learner competence in her class. Listen to what she says about planning and managing the difference between learners' ability levels and how she goes about her planning in order to support the learners' individual needs.

Note your ideas about differentiated teaching and learning in your classroom.

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Isetjhini 4: Ukuhlelela ukufundisa

Ama-iri 1½

Isetjhini yesifundobandulo lesi ilungiselela abahlanganyeli ukwenziwa kweThemu 3 Iimveke 7–10. Kilesisigaba somnyaka, utitjhere kufanele bona sele ayelele umehluko obonakalako phakathi kwamazinga wokuthuthuka kwabafundi. Ithemu 3 yakhela phezu kokumumethweko kweThemu 1 neye-2. Abanye abafundi bazakulungela lokhu, lokha abanye bazakudinga isekelo nokuhlanganiswa kobana baragele phambili. Kuqakathekile ukuhlela nokulungiselela umahluko lo osepumelelweni yabafundi ukuqinisekisa bonyana koke okumumethweko namakghono weembalo zakwaGreyidi R kwenziwe, nabafundi balungiselelwe Ithemu 4 ngokwaneleko.

Amanothi womkghonakalisi

Khombisa ividiyo bese nikhulumisana ngeentjhijilo namathuba wokufundisa okuhlukahlukeneko kwaGreyidi R. Nangabe abahlanganyeli abawatjho amaphuzu alandelako, afake emikhulumiswaneni.

♦ Abafundi boke bangenza umsebenzi ofanako, kodwana imibuzo eludlana nayo ingabuzwa.
♦ Utitjhere angahlahla abafundi ababuthaka/ababuthakathaka bese akhuthaza abafundi esele bathuthuke khulu bonyana bakhulumisane ngeempendulo zabo.
♦ Abafundi bangafakwa eenqhemeni ezinamakghono weminye imisebenzi neenqhemeni ezinamakghono avangileko weminye imisebenzi.
♦ Ukutjheja nokurekhodwa kokutjheja kuqakatheke khulu. Kukghonakalisa utitjhere bonyana abe nelwazi ngeragelophambili lomfundi ngamunye nokwazi bonyana angabasiza njani abafundi.

 Ividiyo 2

Ividiyo 1 ehlelelwe ukufaka hlangana utitjhere akhuluma ngokobana ukulawula njani ukufundisa nokufunda okuhlukahlukeneko, nokuhlola ngetlasini lakhe.

Bukela ividiyo katitjhere akhulumisana ngokobana uqalana njani nepumelelo ehlukeneko yabafundi betlasi lakhe. Lalela lokho akutjhoko mayelana nokuhlela nokulawula ukuhluka phakathi kwezinga lamakghono wabafundi nokobana ulenza njani ihlelo lakhe kobana asekele iindingo zabafundi ngamunye.

Yelela imibono yakho mayelana nokufundisa nokufunda okuhlukahlukeneko ngetlasini lakho.

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♦ Move between the groups as participants discuss the planning and preparation for teaching Term 3 Weeks 7–10 in **Activity 10**. Assist by making suggestions on overcoming challenges.

♦ Each group presents their main discussion points to the whole group.

Activity 10

1. In your group, complete the planning templates for Term 3 Weeks 7–10 (Appendix A).

2. Your group will present an overview of your planning discussion to the other groups. Note the main points of your discussion on flipchart paper. Include answers to the following questions:

   ♦ What challenges do you anticipate in implementing Weeks 7–10?

   ♦ How can you solve each of these challenges in order to achieve successful implementation?

   ♦ How does the teacher-guided activity provide opportunities for the teacher to assess and support the learners?

   ♦ Do the independent small group activities allow for adequate practice of new knowledge and skills?

- Khambakhamba phakathi kweenqhema lokha abahlanganyeli nabakhulumisana ngokuhlela nokulungiselela ukufundisa kuThemu 3 Iimveke 7–10 **Umsebenzi 10**. Basize ngokuvela imibono mayelana nokuhlula iintjhijilo.
- Isiqhema ngasinye sethula amaphuzu aqakathekileko wemikhulumiswano yabo esiqhemeni esipheleleko.

Umsebenzi 10

1. Esiqhemeni senu, yenzani iimfuziselo yokuhlela yeThemu 3 Iimveke 7–10 (Isithasiselo A).

2. Isiqhema senu sizakwethula kezinye iinqhema isirhunyezo semikhulumiswano yenu yokuhlela. Tlolani amaphuzu aqakathekileko wemikhulumiswano yenu kutjhadi lephepha eliphendlekako. Faka hlangana iimpendulo zemibuzo elandelako:

   - Ngiziphi iintjhijilo enizilindeleko ekwenzeni Iimveke 7–10?
   - Ningazirarulula njani iintjhijilo lezi ngasinye kobana nikwazi ukusebenza ngepumelelo efaneleko.
   - Umsebenzi ohlahlwa ngutitjhere uwanikela njani amathuba wokobana utitjhere ahlole abe asekele abafundi?
   - Ingabe imisebenzi yesiqhema esincani esizijameleko ivumela ngokwaneleko ukuzijayeza ilwazi namakghono amatjha?

Closing activities   **30 minutes**

Activity 11

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

_____
_____
_____
_____
_____

Share your reflections with the large group.

Take back to school task

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

Imisebenzi yokuvala

Amanothi womkghonakalisi

♦ **Ukuzindla ngesifundobandulo:** Bawa abahlanganyeli bathathe imizuzu embalwa bazindle ngelanga bese baphendla *INcwadi yokuSebenzela yomHlanganyeli.* Babawe batlole phasi nofana ngimuphi umbuzo nofana umbono wokwabelana nesiqhema soke.

Bawa umhlanganyeli ngamunye bonyana anikele ngokuthanda iimpendulo zokulandelako bese batlola lokhu etjhadini eliphendlekako.

♦ Khuthaza abahlanganyeli bafake nofana ngiwuphi umbono nombiko obuyako ekungakabelwana ngawo ngebhoksini leposi.

♦ **Umsebenzi obuyiselwa esikolweni:** Funda umsebenzi lo woke. Buza nangabe kukhona ongakuzwisisi kuhle nokufuna ihlathululo enabileko.

♦ **Ukuhlunga:** Phakisa amakhophi weForomo lokuHlunga lesiFundobandulo bese unikela abahlanganyeli bawazalise.

♦ **Isifundobandulo esilandelako:** Nikela amalanga wesifundobandulo esilandelako bese uvala isifundobandulo.

Umsebenzi 11

Ukuzindla ngesifundobandulo: Thatha imizuzu embalwa uzindle ngelanga leli. Phendla *INcwadi yokuSebenzela yomHlanganyeli* ukuzikhumbuza ngalokho esele kwenziwe. Tlola phasi imicabango yakho**.**

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_____
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_____

Yabelana ngokuzindla kwakho nesiqhema esikhulu.

Umsebenzi obuyiselwa esikolweni

1. Sebenzisa *umHlahlandlela wemiSebenzi: Ithemu 3* ukuhlela nokwenza Ithemu 3 Iimveke 7–10 zeHlelo leemBalo.

2. Tlola amanothi ngalokho okusebenze kuhle, lokho okungakasebenzi kuhle nokobana uzirarulule njani iintjhijilo nofana ngezinjani ngesikhathi sokwenza Ithemu 3 Iimveke 7–10.

3. Tlola imibono ngencwadini oyisebenzisela ukubulunga ilandelelo leragelophambili lomfundi ngamunye (incwadi yokutjheja abafundi). Sebenzisa irhelo lokutjheja '**Tjheja bonyana abafundi bayakwazi uku**' (ngebhoksini lelihlo) ngesikhathi somunye nomunye umsebenzi ohlahlwa ngutitjhere ukuhlahla ukutjheja nemibono yakho.

4. Yiza nencwadi yakho yokutjheja abafundi namanothi owenzileko lokha nawuzindla ngelanga lokufundisa ngalinye kusifundobandulo esilandelako.

5. Yiza nekhophi yeThemu 3: Isibonelo seRekhodi yokuHlola okuRagela phambili (*yomHlahlandlela wemiSebenzi: Ithemu 3*) kusifundobandulo esilandelako.

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Evaluation

Complete the Evaluation Form.

Ukuhlunga

Zalisa iForomo lokuHlunga.

APPENDIX A: TERM 3 WEEKLY PLANNING TEMPLATE

Term 3: Activity Plan: Week _____

CONTENT AREA:			
TOPIC:			
INTRODUCE NEW KNOWLEDGE:			
PRACTISE:			
Whole class activities		**Teacher-guided activity**	**Workstation activities (independent small group activities)**
Day 1			**Activity 1**
Day 2			**Activity 2**
Day 3			**Activity 3**
Day 4			**Activity 4**
Day 5			

ISITHASISELO A: ITHEMU 3 UMFUZISELO WOKUHLELA WAQOBE YIVEKE

Ithemu 3: Ihlelo Lomsebenzi: Iveke _____

ISIGABA SOKUMUMETHWEKO:		
ISIHLOKO:		
YETHULA ILWAZI ELITJHA:		
UKUJAYEZA:		
Imisebenzi yetlasi loke	**Umsebenzi ohlahlwa ngutitjhere**	**Imisebenzi yesitetjhi sokusebenzela (imisebenzi ezijameleko yesiqhema esincani)**
Ilanga 1		**Umsebenzi 1**
Ilanga 2		**Umsebenzi 2**
Ilanga 3		**Umsebenzi 3**
Ilanga 4		**Umsebenzi 4**
Ilanga 5		

Term 3: Activity Plan: Week ____

CONTENT AREA:				
TOPIC: **INTRODUCE NEW KNOWLEDGE:** **PRACTISE:**				
Whole class activities		**Teacher-guided activity**	**Workstation activities (independent small group activities)**	
Day 1			**Activity 1**	
Day 2			**Activity 2**	
Day 3			**Activity 3**	
Day 4			**Activity 4**	
Day 5				

Ithemu 3: Ihlelo Lomsebenzi: Iveke ____

ISIGABA SOKUMUMETHWEKO:		
ISIHLOKO:		
YETHULA ILWAZI ELITJHA:		
UKUJAYEZA:		

Imisebenzi yetlasi loke	Umsebenzi ohlahlwa ngutitjhere	Imisebenzi yesitetjhi sokusebenzela (imisebenzi ezijameleko yesiqhema esincani)	
Ilanga 1		**Umsebenzi 1**	
Ilanga 2		**Umsebenzi 2**	
Ilanga 3		**Umsebenzi 3**	
Ilanga 4		**Umsebenzi 4**	
Ilanga 5			

Term 3: Activity Plan: Week ____

CONTENT AREA:		
TOPIC: INTRODUCE NEW KNOWLEDGE: PRACTISE:		
Whole class activities	**Teacher-guided activity**	**Workstation activities (independent small group activities)**
Day 1		Activity 1
Day 2		Activity 2
Day 3		Activity 3
Day 4		Activity 4
Day 5		

Ithemu 3: Ihlelo Lomsebenzi: Iveke ____

ISIGABA SOKUMUMETHWEKO:		
ISIHLOKO:		
YETHULA ILWAZI ELITJHA:		
UKUJAYEZA:		
Imisebenzi yetlasi loke	**Umsebenzi ohlahlwa ngutitjhere**	**Imisebenzi yesitetjhi sokusebenzela (imisebenzi ezijameleko yesiqhema esincani)**
Ilanga 1		**Umsebenzi 1**
Ilanga 2		**Umsebenzi 2**
Ilanga 3		**Umsebenzi 3**
Ilanga 4		**Umsebenzi 4**
Ilanga 5		

Term 3: Activity Plan: Week ____

CONTENT AREA:			
TOPIC: INTRODUCE NEW KNOWLEDGE: PRACTISE:			
Whole class activities		**Teacher-guided activity**	**Workstation activities (independent small group activities)**
Day 1			Activity 1
Day 2			Activity 2
Day 3			Activity 3
Day 4			Activity 4
Day 5			

Ithemu 3: Ihlelo Lomsebenzi: Iveke ____

ISIGABA SOKUMUMETHWEKO:

ISIHLOKO:

YETHULA ILWAZI ELITJHA:

UKUJAYEZA:

Imisebenzi yetlasi loke		Umsebenzi ohlahlwa ngutitjhere	Imisebenzi yesitetjhi sokusebenzela (imisebenzi ezijameleko yesiqhema esincani)	
Ilanga 1			Umsebenzi 1	
Ilanga 2			Umsebenzi 2	
Ilanga 3			Umsebenzi 3	
Ilanga 4			Umsebenzi 4	
Ilanga 5				

Workshop 9 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?

_____
_____
_____
_____

Isifundobandulo 9 Iforomo lokuHlunga

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?

   _____
   _____
   _____
   _____