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GROWING GAUTENG TOGETHER

IsiZulu/English

# **Uhlelo Lokuthuthukisa Izibalo Zebanga R Grade R Mathematics Improvement Programme**



**Umhlangano Wokucobelelana Ngolwazi 3 • Workshop 3**  
**Umhlahandlela Wabadidiyeli • 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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I-**Schools Development Unit (SDU)** e-**University of Cape Town (UCT)** iwumlingani owuchwepheshe wezibalo kuHlelo Lokuthuthukisa Izibalo neziLimi ZeBanga R. I-SDU iyinxenye ephakathi ku-School of Education sase-UCT egxile ekuthuthukisweni kobungcweti bothisha eziBalweni, Isayensi, Ukwazi Ukufunda Nokubhala/ Ulimi kanye namaKhono Empilo kusuka EBangeni R kuya EBangeni le-12. I-SDU inikeza iziqu zobuthishela kanye nezifundo zesikhathi esifushane ezivunye i-UCT, umsebenzi osekelwe esikoleni ukuthuthukiswa kwezinto kanye nocwaningo ukuze kusekwe ukufundisa nokufunda kuzo zonke izimo zaseNingizimu Afrika.

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# Contents

## Overview

Purpose .....	page 6
Learning outcomes .....	page 6
Workshop content .....	page 6
Preparation .....	page 8
Materials .....	page 8

## Workshop content

Opening and reflection .....	page 10
Session 1: Patterns, Functions and Algebra .....	page 12
Session 2: Space and Shape (Geometry) .....	page 22
Session 3: Measurement .....	page 30
Session 4: Numbers, Operations and Relationships .....	page 40
Session 5: Planning for teaching .....	page 46
Appendix A: Term 1 Weekly Content Summary (Weeks 6–9) .....	page 52
Workshop 3 Evaluation Form .....	page 56

# Okuqukethwe

## Ukubuka ngelibanzi

Inhloso .....	ikhasi 7
Imiphumela yokufunda .....	ikhasi 7
Okuqukethwe komhlangano wokucobelelana ngolwazi .....	ikhasi 7
Ukulungiselela .....	ikhasi 9
Izinto zokusetshenzisa .....	ikhasi 9

## Okuqukethwe komhlangano wokucobelelana ngolwazi

Ukuvula nokuzindla .....	ikhasi 11
Iseshini 1: Amaphethini, Amafankshini kanye ne-Aljebra .....	ikhasi 13
Iseshini 2: Indawo Nesimo (Ijyomethri) .....	ikhasi 23
Iseshini 3: Isilinganiso .....	ikhasi 31
Iseshini 4: Izinombolo, Izimpawu kanye Nobudlelwane Bazo .....	ikhasi 41
Iseshini 5: Ukuhlelela ukufundisa .....	ikhasi 47

Isithasiselo A: Ithemu 1 Iqoqa Lolwazi Lwesonto Ngalinye

(Amasonto 6–9).....	ikhasi 53
Ifomu Lokuhlola Lomhlangano Wokucobelelana Ngolwazi 3 .....	ikhasi 57

# 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)

# Ukubuka ngelibanzi

## Inhloso

Lo owesithathu emihlanganweni yokucobelelana ulwazi eyishumi nambili ngaphansi kwesihloko: Uhlelo Lokuthuthukisa Izibalo ZeBanga R, eyingxenye YoMnyango WezeMfundo wesiFundazwe saseGauteng (Gauteng Department of Education (GDE) Uhlelo Lokuthuthukisa Izibalo neziLimi ZeBanga R.

Inhloso yalo mhlango wokucobelelana ngolwazi ukusiza othisha ukuthi basebenzise Uhlelo Lwezibalo emakilasini abo. Ababambiqhaza bazoqinisa ukuqonda kwabo Izingxenye Zolwazi ze-CAPS ezithathwe Emasontweni 6–9 Ithemu 1 kanye namakhono okuzejwayeza ukulamula ukufunda izibalo.

Ingxenye Yolwazi Yezibalwa zeBanga R zithathwe *kuSitetatimende Senqubomgomo Yohlelo Lwezifundo Nokuhlola (CAPS): Izibalo Zebanga R (Uhlaka Lokugcina)*, 2011, Umnyango Wemfundo Eyisisekelo, eNingizimu Afrika.

## Imiphumela yokufunda

- ◆ Ukucabanga ngokusetshenziswa kweThemu 1 Amasonto 3–5
- ◆ Ukusebenzisa izimiso Zohlelo Lwezibalo ekuhleleni kwamasonto onke
- ◆ Ukuhlola amasu okuxhasa ukufundisa izibalo kuBanga R
- ◆ Ukucubungula ulwazi Lohlelo Lwezibalo Ithemu 1 Amasonto 6–9 (Amaphethini, Amafankshini kanye ne-Aljebhra; Indawo Nesimo (Ijijomethri); Isilinganiso; Izinombolo, Izimpawu kanye Nobudlelwane Bazo)
- ◆ Ukuqala ukuqonda ukuthi intshisekelo yabafundi eyahlukene kanye namakhono abo kwazisa kanjani ukufunda nokufundisa

## Okuqukethwe komhlangano wokucobelelana ngolwazi

- ◆ Ukuvula nokudlinza (1 ihora)
  - ◆ Iseshini 1: Amaphethini, Amafankshini kanye ne-Aljebhra (1 ihora)
- ITIYE
- ◆ Iseshini 2: Indawo Nesimo (Ijijomethri) (1 ihora)
  - ◆ Iseshini 3: Isilinganiso (1 ihora)
- ISIDLO SASEMINI
- ◆ Iseshini 4: Izinombolo, Izimpawu kanye Nobudlelwane Bazo (1 ihora)
  - ◆ Iseshini 5: Ukuhlelela ukufundisa (1 ihora)

## 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



## Ukulungiselela

- ◆ PPT ukwemukela nemiphumela

- ◆ Funda:

*Umhlahlandlela Wokuqonda Isifundo*, amakhasi 114–137

*Umhlahlandlela Wemisebenzi: Ithemu 1*, amakhasi 18–21

Isithasiselo A: Ithemu 1 Iqoqa Lolwazi Lwesonto Ngalinye

- ◆ Beka *Ikhithi Yezinsiza* Yohlelo Lwezibalo etafuleni leqembu ngalinye.

## Izinto zokusetshenziswa

- ◆ Iphepha leshadi eliphenywayo, amakhokhi

- ◆ *Ikhithi Yezinsiza* yeqembu ngalinye

- ◆ *Ibhuku Lamaphosta* leqembu ngalinye

- ◆ *Ikhithi Yezinsiza*: amabhulokhi angama-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.

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## Amanothi omdidiyeli

- ◆ PPT: Vula iseshini futhi ufunde i-ajenda kanye nemiphumela yokufunda yomhlangano wokucobelelana ngolwazi.
- ◆ Khumbuza ababambiqhaza Ngomsebenzi *obuyela nawo esikoleni* wasekupheleni Komhlangano wokucobelelana ngolwazi 2. Cela ababambiqhaza ukuthi bacabange ngalo msebenzi kanye nokuqaliswa Kwamasonto 3–5 futhi baqedele **Umsebenzi 1**.
- ◆ Amaqembu abelana ngamaphuzu abalulekile neqembu elikhulu. Cabangela ukuthi ukuhlola kuqhubeka kanjani nokuthi ukuqaphela kudingeka kuqhubeke.

Cabanga ngokuqaliswa Kohlelo Lwezibalo kolwakho uhlelo lwansuku zonke bese uqedela umsebenzi olandelayo eqenjini lakho.



### Umsebenzi 1

1. Xoxa ngenqubekelaphambili yakho ekusebenziseni Amasonto 3–5 kanye nomsebenzi *Okubuyelwa nawo esikoleni* ovela Kumhlangano wokucobelelana ngolwazi 2.
2. Yabelana ngesithombe sakho sokugxila Kundawo Nesimo (Ijyomethri) endaweni yezibalo.
3. Ukubhale kanjani okuqaphele komfundi ngamunye ngesikhathi somsebenzi oholwa nguthisha?
4. Yimiphi imigomo oyazi kakhulu ekilasini lakho?



### Ividiyo 1

*Umhlahlandlela Wemisebenzi: Ithemu 1, Isonto 3, Usuku 2 #1, 2 no-3 (ikhasi 57)*

Buka ividiyo yokuthi uthisha usebenzisa kanjani umlolozelo ukuzejwayeza ukubala kanye nokuxazulula izinkinga zamagama.

Xoxani ngokuthi nikuphathe kanjani lokhu kanye nezinye izifundo ezihlanganisa imilolozelo emisebenzini yokubala.

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# 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?

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

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Recognise the repeat in patterns.

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

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

Explain own pattern (repeating rule).

# Iseshini 1: Amaphethini, Amafankshini kanye ne-Aljebhra

1 ihora

## Amanothi omdidiyeli

- ◆ Chaza ukuthi lo mhlangotho wokucobelelana ngolwazi ukhuluma ngokuqukethwe Uhlelo Lwezibalo Ithemu 1 Amasonto 6–9, nokuthi Isonto 6 ligxile Kumaphethini, Amafankshini kanye ne-Aljebhra.
- ◆ Bhokisa ababambiqhaza ekhasini 125 *Lomhlahlandlela Wokuqonda Isifundo*. Chaza ukuthi inhloso **Yomsebenzi 2** ukugqamisa Ingxenye Yolwazi Lwamaphethini, Amafankshini kanye ne-Aljebhra lweThemu 1.
- ◆ Cela ukuthi ababambiqhaza basebenze emaqenjini ukuze baqedele **Umsebenzi 2**. Cela umuntu oyedwa eqenjini ngalinye ukuthi abelane ngemicabango yakhe.

Lo mhlangotho wokucobelelana ngolwazi ugxile ekufundiseni lokhu okuqukethwe Kohlelo Lwezibalo: Itemu 1 Amasonto 6–9. Le seshini igxile kuThemu 1 Isonto 6: Amaphethini, Amafankshini kanye ne-Aljebhra.

## Ithemu 1 Ukubuka ngelibanzi ulwazi: Amaphethini, Amafankshini kanye ne-Aljebhra

Bheka Amaphethini, Amafankshini kanye ne-Aljebhra Ingxenye Yolwazi ekhasini 125 *Umhlahlandlela Wokuqonda Isifundo*.



### Umsebenzi 2

Eqenjini lakho, xoxani:

1. Yiluphi ulwazi oluvezwe kuThemu 1?

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2. Yimuphi umehluko phakathi kokuqukethwe kanye nolwazi oluvela ku-CAPS?

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Bona impinda emaphethinini.

Yethula ulimi, isb. Yini elandelayo? Yini eza kuqala?

Yakha iphethini yakho usebenzisa izinto ezibonakalayo, imidwebo, amaphethini ejiyomethri.

Chaza iphethini yakho (umthetho ophindayo).

## Understanding patterns

### Facilitator's notes

- ◆ PPT: Refer groups to Poster 7 in the *Poster Book* and have them complete **Activity 3**.
- ◆ PPT: Give a definition of a pattern and a sequence, using the information below. Demonstrate these explanations.  
*A **pattern** describes the regular sequence of objects, pictures, movements, actions or events that are repeated in a predictable way.*  
*A **sequence** is the particular order in which objects, pictures, movements, actions or events follow each other.*

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

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



### Activity 3

In your group, discuss:

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

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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?

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- ◆ What is the pattern?

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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).

## Ukuqonda amaphethini

### Amanothi omdidiyeli

- ◆ PPT: Bhekisa amaqembu kuPhosta 7 *Ebhukwini Lamaphosta* futhi uwagcwalise **Umsebenzi 3**.
- ◆ PPT: Nikeza incazelo yephethini nokulandelana, usebenzisa ulwazi olungezansi. Bonisa lezi zincazelo.  
*Iphethini ukulandelana okujwayelekile kwezinto, ukunyakaza noma izigameko eziphindwa ngendlela eqagelekayo.*  
*Ukulandelanisa ukuhleleka okuthile lapho izinto, ukunyakaza noma izigameko zilandelana.*

Ukuthuthukisa ukuqonda kwamaphethini yingxenye ebalulekile yezibalo. Amaphethini asizungezile futhi izingane zihlangabezana namaphethini amaningi ekuphileni kwazo kwansuku zonke ekhaya nasesikoleni.

Cabanga ngokuqonda kwakho Ingxenye Yolwazi: Amaphethini, Amafankshini kanye ne-Aljebra bese uqedela Umsebenzi 3 neqembu lakho.



### Umsebenzi 3

Eqenjini lakho, xoxani ngokuthi:

1. Yiziphi izinhlobo zamaphethini abafundi beBanga R abangaziqaphela ekuphileni kwabo kwansuku zonke?

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Amaphethini ezingutsheni, ezakhiweni, emvelweni (isb. imbali, isidleke sezinyosi).

### Amanothi omdidiyeli

- ◆ PPT: Izithombe zamaphethini ezisizungezile kwezemvelo kanye nakwimvelo.
- ◆ Xoxa ngokuthi ukulandelana kwezinto kunganwetshwa kanjani kodwa lokhu ngeke ngempela kudale iphethini.
- ◆ Bheka izibonelo zalapho kuphindaphindwa khona ukulandelana ukuze kwakhiwe iphethini.

2. Bheka Iphosta 7 kwi*Bhuku Lamaphosta*.

- ◆ Yimaphi amaphethini owabonayo?

- ◆ Ithini iphethini?

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Hlonza ingxenye 'ephindayo' yephethini.

Izinto ziyaphindwa (ngaphandle uma kuyiphethini engajwayelekile, isb amagxolo esihlahla, amaphethini angahleliwe ephepheni noma awendwangu).

- ◆ Can you repeat the pattern? Explain.
- 
- 

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

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

## Identifying patterns

### Facilitator's notes

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

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



### Activity 4



1. Which shape is first?  

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2. Which shape is next?  

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

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4. How would you extend the pattern?  

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



- ◆ Ngabe ungakwazi yini ukuphinda iphethini? Chaza.
- 
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**Iphethini** ukulandelana okujwayelekile kwezinto, ukunyakaza noma izigameko eziphindwa ngendlela eqagelekayo.

**Ukulandelanisa** ukuhleleka okuthile lapho izinto, ukunyakaza noma izigameko zilandelana.

## Ukuhlonza amaphethini

### Amanothi omdidiyeli

- ◆ Chaza lokho kuphethini ejwayelekile ukuthi izinto ezisephethinini eziphindaphindiwe singazibona kanjani, futhi singakwazi yini ukuqagela ukuhleleka noma ukulandelana okuzolandelwa yiphethini.
- ◆ PPT: Izindilinga kanye nezikwele ziphindaphindiwe ukuze zenze iphethini.
- ◆ Bhekisa ababambiqhaza endilingeni kanye nakumaphethini ayisikwele kwi*Ncwadi Yokusebenzela Yababambiqhaza*. Sebenzisa imibuzo elandelayo ukukhombisa ukuthi singabona kanjani ukuthi indilinga nesikwele kuyaphindwa futhi sisebenzise lokhu ukubikezela ukuthi isimo esilandelayo sizoba yini.
- ◆ Ephethinini elingezansi singabona ukuthi indilinga nesikwele kuyaphindwa, futhi singabikezela ukuthi isimo esilandelayo ngokulandelana kuzoba yindilinga, ilandelwe yisikwele, njll.

Ngaphethini ejwayelekile, singabona ukuthi izakhi ngokulandelana ziphindaphindwa kanjani. Singakwazi futhi ukuqagela ukuhleleka noma ukulandelana kwezakhi nokuthi zizophindwa kanjani ukuze kwakhiwe iphethini. Ephethinini elingezansi singabona ukuthi indilinga nesikwele kuyaphindwa, futhi singabikezela ukuthi isimo esilandelayo ngokulandelana kuzoba yindilinga, ilandelwe yisikwele, njll.



### Umsebenzi 4



1. Yisiphi isimo esingesokuqala?  

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2. Yisiphi isimo esilandelayo?  

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3. Ucabanga ukuthi yisiphi isimo esizoba ngemuva kwesikwele sokugcina?  

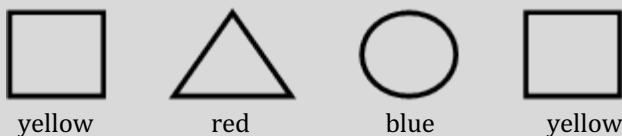
---
4. Ungalinweba kanjani leli phethini?  

---

Amaphethini aphindaphindayo akhiwe ukulandelana kwezakhi okuphindaphindiwe, isb. izimo, imibala, imisindo, izinto, ukunyakaza.

### Facilitator's notes

- ◆ PPT: Display the following sequence of attribute blocks:



- ◆ 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?

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2. What is the repeating part of the sequence?

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### 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 omdidiyeli

- ◆ PPT: Khombisa lokhu kulandelana okulandelayo kwamabhulokhi angama-athribhuthi:



phuzi  
bomvu



luhlaza



okwesi-  
bhakabhaka



phuzi

- ◆ Cela ababambiqhaza ukuthi babheke iphethini futhi basebenzise amabhulokhi angama-athribhuthi kumathebula abo ukukopisha ukulandelana. Amaqembu bese eqedela **Umsebenzi 5**.

Emsebenzini olandelayo, umdidiyeli uzokukhombisa ukulandelana kwezimo.

Uzosebenzisa amabhulokhi angama-athribhuthi kuthebula lakho ukuze ukopishe lokhu kulandelana futhi uxoxe ngokuthi ungakunweba kanjani lokhu ukuze wakhe iphethini.



## Umsebenzi 5

1. Ithini iphethini?

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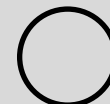
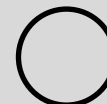
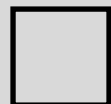
2. Iyiphi ephindayo yokulandelana?

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## Amanothi omdidiyeli

- ◆ Inhloso yalo msebenzi ukukhomba ingxenye ephindaphindayo yokulandelana, okungukuthi iphethini. Ngabe iphethini iqala ngesikwele esiphuzi iphinde iphethe ngendilinga eluhlaza okwesibhakabhaka? Noma ngabe iphethini iqala ngesikwele esiphuzi bese igcina ngesikwele esiphuzi?
- ◆ Chaza ukuthi abafundi badinga ukwazi ukubona iphethini ngaphambi kokuba banwebe noma benze eyabo iphethini.
- ◆ Gcizelela ukuthi othisha kumele bahlale bephinda iphethini okungenani kabili ngaphambi kokuba bacele abafundi ukuthi balinwebe, isibonelo:



- ◆ Emva kwale misebenzi eveza ukubaluleka kokwethula abafundi emaphethinini ane-athribhuthi eyodwa ehlukele, isb. isimo kanye nokubahlinzeka ngokulandelanayo okuphindayo okude ngokwanele (isb. okuthathu okuphindayo) ukuze bakwazi ukuthola iphethini.
- ◆ Buza ababambiqhaza ngezibonelo zezinhlobo zamaphethini imindeni engase iwathole emizini yawo nasemiphakathini (**umgomo wesimo**).
- ◆ Ukucabanga ngalokho okwenzeka ezimpilweni zabafundi zonke izinsuku okungamaphethini kuyindawo yokuqala yokuqonda ulwazi lwephethini (**umgomo wamazinga**).

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.

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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 kumaphethini aqala nge-athribhuthi eyodwa kuphela ehlukeyo, isb. isimo, bese uhlinzeka izinto ezanele ngokuphathelene nokulandelana ukuze abafundi bakwazi ukuthola iphethini (indawo ephindayo yokulandelana).

Kubalulekile ukuthi othisha bahlinzeke ngamathuba amaningi okuthi abafundi bahlonze, bakopishe bese bakha izinhlobo ezahlukene zamaphethini besebenzisa imisindo, iminyakazo, izinto kanye nezithombe.



## Ividiyo 2

*Umhlahlandlela Wemisebenzi: Ithemu 1, Isonto 6, Izinsuku 2, 3 no-4 (amakhasi 104–111)*

Bheka ividiyo kathisha olungiselela imisebenzi, ehlinzeka ngamathuba okuthi abafundi bakhe bese bexoxa ngamaphethini.

Qaphela indlela uthisha ahola ngayo abafundi ngokuphathelene nemibuzo kanye nokubatshelela ukuthi bakhe iphethini. Bhala phansi isilulumagama, yena kanye nabafundi abasisebenzise ngesikhathi sale misebenzi.

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Bheka amakhasi 160–173 *Omhlahlandlela Wokuqonda Isifundo* ukuze ufunde kabanzi ngokufundisa amaphethini, Amaphethini, Amafankshini kanye ne-Aljebhra kuBanga R. Uzothola futhi nohlu lwemibuzo kanye nesilulumagama okufanele kwale Ngxenywe Yolwazi.

**Umgomo wamazinga** uthi abafundi badlula emazingeni ahlukene okuqonda nokuthuthuka kuBanga R. Lokho obekuvele kwaziwa umfundi kuba yindawo yokuqala yalokho abazokufunda. Bangasebenzisa lokho asebevele bekwazi ukuze bafunde ulwazi namakhono amasha ezibalo.

# 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.

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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?

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

# Iseshini 2: Indawo Nesimo (Ijijomethri)

1 ihora

## Amanothi omdidiyeli

- ◆ Chaza ukuthi okugxilwe kukho Esontweni 7 Indawo Nesimo (Ijijomethri)
- ◆ Bhokisa ababambiqhaza emakhasini 126–131 *Omhlahlandlela Wokuqonda Isifundo*.
- ◆ Yenza ababambiqhaza basebenze emaqenjini ukuze baqedele **Umsebenzi 6**. Cela umuntu oyedwa eqenjini ngalinye ukuthi abuyise umbiko.
- ◆ Okugxilwe kukho Indawo Nesimo (Ijijomethri) kulo mhlango wokucobelelana ngolwazi kwelula ingxoxo Yomhlango wokucobelelana ngolwazi 2.

Chaza ukuthi okugxilwe kukho kuThemu 1 Isonto 7 Indawo Nesimo (Ijijomethri) Emhlanganweni wokucobelelana ngolwazi 2, sixoxe ngezinto ezinhlangothi-ntathu kanye nezimo ezinhlangothi-mbili kanye nolwazi Lwesonto 3–5 okuzosetshenziswa ekilasini.

## Ithemu 1 Ukubuka ulwazi ngelibanzi: Indawo Nesimo (Ijijomethri)



### Umsebenzi 6

Bhekisa Engxenyeni Yolwazi Yendawo Nesimo (Ijijomethri) esemakhasini 126–131 *Omhlahlandlela Wokuqonda Isifundo*. Uzobona ukuthi zonke izindilinga, izikwele kanye nonxantathu kwethulwa ku-CAPS kuThemu 1, bese onxande bethulwa kuThemu 1. Uhlelo Lwezibalo luphakamisa ukuthi onxande bethulwa unganakile kuThemu 1.

1. Ngesikhathi ufundisa izikwele ngabe uthole ukuthi abafundi baphambanisa izikwele nonxande? Nikeza izizathu zokusekela impendulo yakho.

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Kudingeka ukuthi abafundi babone umehluko phakathi kwale mibini. Nanoma yomibili inezinhlangothi ezine kanye namakhona amane, unxande inezinhlangothi ezimbili ezinde kanye nezinhlangothi ezimbili ezimfushane, bese isikwele siba nezinhlangothi ezine eziwubude obulinganayo.

2. Ngabe bethulwe kanjani onxande kuSonto 3 Lohlelo Lwezibalo?

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Ngokusebenzisa amabhokisi kanye nokuxoxa nokuqhathanisa izinhlangothi zebhokisi.

## 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.

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### 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.



## Ukuhlonza izimo ezinhlangothi-mbili (onxantathu)

### Amanothi omdidiyeli

- ◆ Khumbuza ababambiqhaza ukuthi Kumhlango wokucobelelana ngolwazi 2 bafunde ngezinto ezinhlangothi-ntathu kanye nezimo ezinhlangothi-mbili.  
**Ukuthi nhlangothi-ntathu (3-D)** kuchaza izinto ezinezinhlangothi ezintathu: ubude, ububanzi nakho ukuphakama.  
**Ukuthi nhlangothi-mbili (2-D)** kuchaza izimo ezinobude kanye nobubanzi.
- ◆ Chaza ukuthi onxantathu bafundiswa ngendlela efanayo yini nezindilinga kanye nezikwele kuThemu 1 (Isonto 7).

KuBanga R abafundi babona, bahlonze bese bebiza ngamagama izimo ezinhlangothi mbili: izindilinga, izikwele, onxantathu kanye nonxande. Uhlelo Lwezibalo luphinde luphakamise ukuthi abafundi bakhuthazwe ukuthi bachaze izici zalezi zimo, isb. imigqa eqondile noma egobile, inani lemigqa kanye namakhona.

Abafundi basebenzisa ulwazi lwabo olusha lwezimo bese beqinisa lokhu kufunda emisebenzini ezimele yamaqembu amancane.



### Ividiyo 3

Umhlahlandlela Wemisebenzi: Ithemu 1, Isonto 7, Izinsuku 1no-2 (amakhasi 120–125)

Bheka ividiyo kathisha owethula abafundi kunxantathu.

Qaphela indlela uthisha akhuthaza ngayo abafundi ukuthi bachaze izici zikanxantathu.

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### Amanothi omdidiyeli

- ◆ Ku**Msebenzi 7** ababambiqhaza babheka indlela *Ibhuku Lamaphosta* elingasetshenziswa ngayo ngesikhathi semisebenzi ukuze kuqaliswe ingxoxo.
- ◆ PPT: Khombisa Iphosta 8 bese ucela ababambiqhaza ukuthi baphendule imibuzo ku**Msebenzi 7**.
- ◆ Emva komsebenzi buza ababambiqhaza izici zezimo ezingonhlangothi-mbili okuxoxwe ngazo nokuthi kusetshenziswe luphi ulimi.
- ◆ Khumbuza ababambiqhaza ukuthi izinto ezinhlangothi-mbili zichaza ukuthi isimo sinobude kanye nobubanzi bese unhlangothi-ntathu echaza ukuthi into inobude, ububanzi kanye 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

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

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◆ How many sides does it have? closed

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◆ How many corners does it have? closed

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◆ How many lines? closed

---

◆ Can you see any other triangles? closed

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◆ What other shapes can you see? closed

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

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

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

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*Umhlahlandlela Wemisebenzi: Ithemu 1* ihlinzeka amathuba amaningi ethemini yonke okuthi othisha basebenzise imibuzo evulekile. *Ibhuku Lamaphosta* lisetshenziswa ngesikhathi semisebenzi yekilasi lonke kanye neyamaqembu amancane aholwa uthisha ukuze kukhuthazwe bafundi ukuthi bazwakalise imiqondo yabo bese bexazulula izinkinga.

Kumsebenzi 7, uzoxoxa ngephosta bese uxoxa ngokuthi ngabe imibuzo ebuziwe iyimibuzo 'evulekile' noma 'evalekile'.



### Umsebenzi 7

1. Bheka Iphosta 8 bese uphendula le mibuzo elandelayo.

◆ Ubona onxantathu abangaki? uvalekile

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◆ Wazi kanjani ukuthi unxantathu? uvulekile

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◆ Unezinhlangothi ezingaki? uvalekile

---

◆ Unamakhona amangaki? uvalekile

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◆ Mingaki imigqa? uvalekile

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◆ Ngabe bakhona abanye onxantathu obabonayo? uvalekile

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◆ Ngabe zikhona ezinye izimo ozibonayo? uvalekile

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◆ Yini efanayo ngalezi zimo ezimbili? uvulekile

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◆ Yini ehluke ngalezi zimo ezimbili? uvulekile

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2. Yimiphi kule mibuzo engenhla evulekile, futhi yimiphi evalekile?

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### 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 omdidiyeli

- ◆ Xoxani ngezinhlobo zemibuzo ebuzwe **kuMsebenzi 7** nokuthi **umgomo wokuholwa** ukukhuthaza kanjani ukuxazulula izinkinga ngokubuza imibuzo esebenzayo.
- ◆ Gqamisa ukubaluleka kokusebenzisa isilulumagama sezibalo ngesikhathi sokuxoxa nabafundi.
- ◆ Khumbuza ababambiqhaza ukuthi akubona bonke abafundi ababamba isu/umqondo ngesikhathi esifanayo (**umgomo wamazinga**) futhi kumele bakhuthazwe ukuthi babelane ngalokho abakucabangayo futhi banikezwe imisebenzi kanye namathuba amaningi okuxoxa ngezimo.

**Umgomo wokuhola** ukhuthaza othisha kanye nabafundi ukuthi basebenzisane ukuze kuxazululwe izinkinga kusetshenziswe ukubuzwa kwemibuzo ngendlela efanele.

- ◆ **Imibuzo evalekile** yimibuzo enempendulo enomkhawulo engaba u-‘yebo’ noma u-‘cha’. Imibuzo evalekile ingasiza ekutholeni ukuthi yini eyaziwa ngabafundi, njengokuthi ‘Yisiphi isimo esingunxantathu?’, ‘Simbala muni?’
- ◆ **Imibuzo evulekile** inempendulo engaphezu kweyodwa engaba ngefanele, fuzelela ukucabanga bese ukhuthaza ukuthi abafundi bazwakalise imiqondo yabo ngesikhathi besombulula izinkinga.

Akubona bonke abafundi ababamba ulwazi noma bafunde ulimi lwezibalo ngesikhathi esifanayo (**umgomo wamazinga**).

## Isilulumagama sezibalo

Lapho abafundi bephenya, bese bechaza izimo kanye nezinto, basebenzisa ulimi lwansuku zonke olufana nokuthi ‘isicaba’, ‘okubusheshelezi’ kanye ‘nokucijile’. Othisha bangethula ulwazimagama lwezibalo ukuze basebenzise lona esikhundleni solimi lwansuku zonke, isibonelo: imigqa eqondile, imigqa egobile, amakhona, izinhlangothi. Siphinde sikhulume ngokuthi into yinde, ibanzi kangakanani; bese ubhekisa ekuphakameni kwento.

Bhekisa amakhasi 190–193 *Omhlahlandlela Wokuqonda Isifundo* ukuze ufunde kabanzi ngemibuzo ephathelene nokufundisa kanye nokufunda ulwazi Lwendawo Nesimo (Ijijomethri). Funda futhi nekhasi 193 ukuze uthole okwengeziwe mayelana nesilulumagama Sendawo Nesimo (Ijijomethri) iBanga 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?

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

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## 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.

# Iseshini 3: Isilinganiso

1 ihora

## Amanothi omdidiyeli

- ◆ Chaza ukuthi okugxilwe kukho kweSonto 8 kungeSilinganiso.
- ◆ Bhekisa ababambiqhaza kumakhasi 132–135 *Omhlahlandlela Wokuqonda Isifundo*.
- ◆ Yenza ababambiqhaza basebenze amaqenjini ukuze baqedele **Umsebenzi 8**. Cela umuntu oyedwa eqenjini ngalinye ukuthi abelane ngemicabango yakhe.

Okugxilwe kukho kweThemu 1 Isonto 8 Isilinganiso: isikhathi kanye nobude.

## Ithemu 1 Ukubuka ulwazi ngelibanzi: Isilinganiso



### Umsebenzi 8

Bhekisa Engxenyeni Yolwazi Yokulinganiso emakhasini 132–135 *Omhlahlandlela Wokuqonda Isifundo*.

Eqenjini lakho, bukani lokhu ngelibanzi:

1. Yimaphi amaphuzu enziwe kuThemu 1?

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2. Mahluko muni okhona phakathi kokuqukethwe lapha nokuqukethwe ku-CAPS?

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## Siyini isilinganiso?

### Amanothi omdidiyeli

- ◆ Cela ababambiqhaza ukuthi bacabange ngokuthi siyini isilinganiso.
- ◆ PPT: Isithombe esifanayo kuMsebenzi 9.
- ◆ Ababambiqhaza baqedela **Umsebenzi 9** bese babelana ngalokho abakubhalile.
- ◆ Xoxani ngale mibuzo elandelayo neqembu:  
Ubani omude kunabanye?  
Ubani osindayo kunabanye?  
Ubani omdala kunabanye?
- ◆ Chaza ukuthi ukukala kumayelana nokuthola ukuthi kukhona into 'engakanani' yento ethile, isb. ubude bento ethile, nokuthi into ithatha into engakanani (umthamo), isisindo sento noma ukuthi kuthatha isikhathi esingakanani ukwenza into ethile (isikhathi).
- ◆ Chaza ukuthi ukuze ukhulume ngesilinganiso kumele usho ukuthi yini ofuna ukuyilinganisa – i-athribhuthi. Nikeza izibonelo zama-athribhuthi: ubude, ukuphakama, isisindo, umthamo.
- ◆ Sebenzisa lolu lwazi ngezansi Kumsebenzi 9 ukuze uchaze amayunithi okukala ajwayelekile nangajwayelekile.
- ◆ Chaza ukuthi kuBanga R, abafundi balinganisa ngokungahlelekile kusetshenziswa amayunithi okukala angahlelekile ukuze kukalwe isikhathi, ubude, isisindo kanye nomthamo noma ivolumu.

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.



Kumsebenzi 9 sizodingida umbuzo othi ‘Siyini isilinganiso?’.



## Umsebenzi 9

Bheka isithombe esingezansi bese uphendula umbuzo.



Ubani omkhulu kunabo bonke?

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Isilinganiso simayela nokuthola ukuthi kukhona into ‘engakanani’ yento, isb.:

- ◆ ubude bento ethile
- ◆ ukuthi ithatha into engakanani
- ◆ isisindo sento ethile
- ◆ kuthatha isikhathi esingakanani ukwenza okuthile.

Ukuze ulinganise, sidinga ukunquma ukuthi iyiphi i-athribhuthi (isici/isimilo) esifuna ukusilinganisa, isb. ubude, isisindo, isikhathi. Sisebenzisa la magama alandelayo ukuchaza isilinganiso: -de kuna-, -sinda kuna-, -dala kuna-.

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.

Sidinga ukusebenzisa amayunithi ukuze silinganise. Lokhu kungaba amayunithi angajwayelekile noma amayunithi angajwayelekile.

- ♦ **Isikali sokulinganisa esingekho emthethweni** sihlanganisa izandla, izinyawo, amakhrayoni, izingcezu zentambo, izinduku kanye namabhulokhi.
- ♦ **Isikali sokulinganisa esisemthethweni** sihlanganisa amalitha, amamililitha, amakhilogremu, amagremu, amamitha, amahora, imizuzu, njll.

KuBanga R abafundi bakala **ngokungekho emthethweni**, bese besebenzisa **amayunithi okulinganisa angahlelekile** ukuze balinganise isikhathi, ubude, isisindo, umthamo kanye nevolumu.

## Ukuqhathanisa ngqo

### Amanothi omdidiyeli

- ♦ Khombisa ukuthi kusetshenziswa kanjani ukuqhathanisa ngqo kanye namayunithi okukala angekho emthethweni. Cela amavolontiya ayisishiyagalombili ukuthi azoma phambili. Buza:  
Ubani omude kunabo bonke eqenjini? Wazi kanjani?  
Ubani omfushane kunabo bonke eqenjini? Wazi kanjani?  
Ngabe bakhona abanobude obulinganayo? Wazi kanjani?  
Singakuthola kanjani lokho?
- ♦ Yenza ukuthi ababambiqhaza bame bafulathelane ukuze kuqhathaniswe ubude babo. Emva kwalokho, cela ababambiqhaza ukuthi baqedele **Umsebenzi 10**.
- ♦ Xoxa ngalokhu ngokuqhathanisa ngqo i-athribhuthi (ubude) babantu ababili, singathola ukuthi ubani obe mude kunabanye.
- ♦ Khomba ukuthi lo msebenzi wokukala uthathwe Esontweni 8 *Umhlahlandlela Wemisebenzi: Ithemu 1* (amakhasi 136–149) nokuthi ababambiqhaza kumele babhekise kuwo umsebenzi lapho behlela.

Ukukala kuBanga R kuhlanganisa ukuqhathanisa ama-athribhuthi ento ethile 'ngqo' nanye into. Isibonelo, ukukala ubude bekhrayoni nelinye ikhrayoni noma ukuqhathanisa ubude babafundi ababili abamile kodwa abafulathelane.

Buka umdidiyeli ngesikhathi ekala iqembu lababambiqhaza bese uqedela Umsebenzi 10 eqenjini lakho.



### Umsebenzi 10

Bhekisa emakhasini 194–207 *Omhlahlandlela Wokuqonda Isifundo* ukuze ufunde kabanzi ngeSilinganiso kanye namakhasi 136–149 *Umhlahlandlela Wemisebenzi: Ithemu 1* ngaphambi kokuphendula umbuzo ongezansi.

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

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Learners' bodies.

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

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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?

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1. Yimaphi amayunithi okulinganisa angekho emthethweni asetshenziseselwe ukulinganisa ukuphakama kwababambiqhaza?

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Imizimba yabafundi.

2. Yimaphi amanye amayunithi okulinganisa angekho emthethweni angasetshenziswa ukuze kukalwe ubude bombambiqhaza?

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Isib. intambo, ipensela, ibhulokhi.

## Isikhathi

### Amanothi omdidiyeli

- ◆ Lungiselela ingxoxo emayelana nesikhathi sokufundisa iBanga R – okungumqondo ocashile nokuthi abafundi badinga ukufunda ngesikhathi kulokho abakujwayele okwenzeka ezimpilweni zabo nsuku zonke.
- ◆ Cela ababambiqhaza baqedele **Umsebenzi 11** bese babelana ngemibono yabo neqembu elikhulu. Lokhu kuhlenganisa:
  - ukulandelanisa izigameko noma imisebenzi ephindayo osukwini
  - ishadi lesimo sezulu elinosuku lwesonto, usuku lwenyanga kanye kanye nezithombe ekhalendeni lamaviki onke
  - ikhalenda elinezinsuku zesonto.

Isikhathi siyinto engelula ukuthi iqondwe abafundi. Abafundi kumele baqonde ukuthi isikhathi sidlula kanjani ezimpilweni zabo, ngakho othisha kumele bahlobanise isikhathi nemisebenzi kanye nezigameko abazejwayele ezenzeka ezimpilweni zabafundi nsuku zonke.



### Umsebenzi 11

Bhekisa emuva kuThemu 1 Isonto 8 *Umhlahlandlela Wemisebenzi: Ithemu 1* xoxani nawophathina ukuthi isikhathi sifundiswa kanjani kulezi zifundo. Yabelana ngemiqondo yakho mayelana nalokhu okulandelayo.

1. Ngabe othisha/abasebenzi beBanga R babasiza kanjani abafundi ukuthi baqonde kabanzi ngolwazi:
  - ◆ lwasemini kanye nolwasebusuku?
  - ◆ lokuthi izolo, namhlanje kanye nakusasa?
  - ◆ lokuthi zithatha isikhathi esingakanani izinto?
  - ◆ lokulandelana kwesikhathi?

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

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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?

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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 kanjani imisebenzi yakho yohlelo lwansuku zonke ukufundisa abafundi ngolwazi lwesikhathi?

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Ukuxoxa ngokulandelana kwemisebenzi – isib. yini esiyenza kuqala, elandelayo, yini eyenzeka ngaphambi Kwesikhathi Sendaba – kuhlinzeka amathuba okudlinza ngokuthi yini eyenzeke kuqala/elandelayo/eyokugcina.

3. Yisiphi isilulumagama esibalulekile ukuze kuqondwe ulwazi lwesikhathi?

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Ngaphambi, emva, -landelayo, manje, ngaleso sikhathi, usuku, ubusuku, ekuseni, emini, namhlanje, izolo, kusasa.

Bhekisa emakhasini 194–207 *Omhlahlandlela Wokuqonda Isifundo* ukuze ufunde kabanzi ngeSilinganiso kanye nesikhathi: Bhekisa ekhasini 211 *Lomhlahlandlela Wokuqonda Isifundo* ukuze ufunde kabanzi ngokubuza imibuzo ehlobene nokufundisa kanye nokufunda Isilinganiso kuBanga R.

# Session 4: Numbers, Operations and Relationships

1 hour

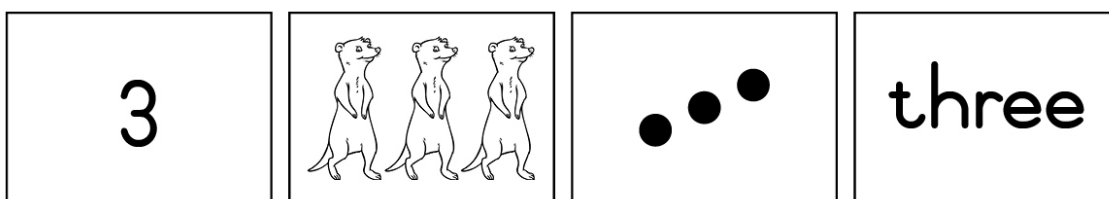
## Facilitator's notes

- ◆ Draw the participants' attention to how the number 3 is introduced on pages 102–105 of *Activity Guide: Term 1*.
- ◆ Explain that even though the Content Area Focus is Patterns, Functions and Algebra in Week 6, the number 3 is also introduced in this week.
- ◆ Discuss the routine that is followed for the numbers 1 and 2 and reflect on whether the same routine is followed for number 3. Discuss how each number of pictures and dots is one more than the previous one and make the connection to the fact that 2 is one more than 1 and 3 is one more than 2.
- ◆ Explain that in Week 6 learners are also introduced to dot cards.
- ◆ Use the dot cards in the *Resource Kit* to demonstrate how learners match counters to the dot cards and discover that 3 is made up of 1 and 2 dots.

In Workshop 2, you were introduced to the concepts of counting and representation of number. In this workshop we will see how the same ideas continue into Week 6 as the number 3 is introduced. The same routine is followed as with numbers 1 and 2, namely: Refer to pages 102–105 of *Activity Guide: Term 1* for the introduction of number '3' activity.

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

- ◆ animal (picture)
- ◆ number symbol
- ◆ number word
- ◆ dots (representing the doorbells).



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



# Iseshini 4: Izinombolo, Izimpawu kanye Nobudlelwane Bazo

1 ihora

## Amanothi omdidiyeli

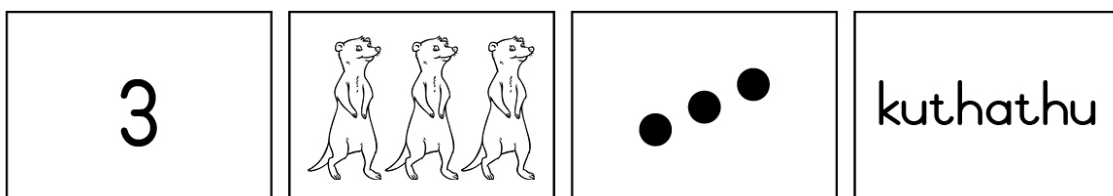
- ◆ Khombisa ababambiqhaza ekutheni inombolo u-3 yethulwe kanjani emakhasini 102-105 *Omhlahlandlela Wemisebenzi: Ithemu 1.*
- ◆ Chaza ukuthi noma Ingxenywe Yolwazi okugxilwe kuyo Kungamaphethini, Amafankshini kanye ne-Aljebhra Esontweni 6, inombolo u-3 nayo iyethulwa kuleli sonto.
- ◆ Xoxa ngokwenziwa njalo okulandelwayo ngokuphathelene nenombolo 1 no-2 bese ubheka ukuthi ngabe okulandelayo okwenziwayo kulandela okwenziwayo kwenombolo 3 na. Xoxa ngokuthi inombolo ngayinye yezithombe kanye namachashazi iningi kunedlule, bese uqondanisa neqiniso lokuthi u-2 ungaphezu ngokukodwa ku-1, bese u-3 eba ngaphezulu ngokukodwa ku-2.
- ◆ Chaza ukuthi Esontweni 6 abafundi baphinde bethulwe kumakhadi anamachashazi.
- ◆ Sebenzisa amakhadi anamachashazi aku*Khithi Yezinsiza* Ukuze ukhombise ukuthi abafundi baqondanisa kanjani izinto zokubala namakhadi anamachashazi, bese uthola ukuthi u-3 wenziwe ichashazi eli-1 kanye namachashazi ama-2.

Kumhlangano Wokucobelelana Ngolwazi 2, wethulelwe ulwazi lokubala kanye nokumela inombolo. Kulo mhlango wokucobelelana ngolwazi siyabona ukuthi imiqondo efanayo iqhubekela kanjani Esontweni 6 ngesikhathi kwethulwa inombolo 3. Kulandelwa indlela efanayo njengakunombolo 1 no-2, okusho ukuthi:

Bhekisa emakhasini 102-105 *Omhlahlandlela Wemisebenzi: Ithemu 1* ngokuphathelene nokwethulwa komsebenzi wenombolo '3'.

Xoxa *Indaba yenombolo 3* bese uyilingisa ngesikhathi uthuthukisa indaba ngokumela okwehlukene usebenzisa amakhadi efrizi yezinombolo avela *Kukhithi Yezinsiza*:

- ◆ isilwane (isithombe)
- ◆ uphawu lwenombolo
- ◆ igama lenombolo
- ◆ amachashazi (amele izinsimbi zezicabha).



Bheka izinto, bese uqondanisa uphawu lwenombolo (3) kanye negama lenombolo (kuthathu). Esontweni 6, abafundi bethulwa kumakhadi anamachashazi (avela *Kukhithi Yezinsiza*). Abafundi baqondanisa izinto zokubala ezikumakhadi anamachashazi, bese bexoxa ngokuthi u-3 wenziwe ichashazi eli-1 kanye namachashazi ama-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 Ukubuka ulwazi ngelibanzi: Izinombolo, Izimpawu kanye Nobudlelwane Bazo

### Amanothi omdidiyeli

- ◆ Chaza ukuthi okugxilwe kukho Esontweni 9 kuphathelene Nezinombolo, Izimpawu kanye Nobudlelwane Bazo
- ◆ Bhekisa ababambiqhaza emakhasini 114–123 *Omhlahlandlela Wokuqonda Isifundo*.
- ◆ Yenza ababambiqhaza basebenze emaqenjini ukuze baqedele **Umsebenzi 12**. Cela umuntu oyedwa eqenjini ngalinye ukuthi abelane nabanye ngemicabango yakhe.

Isonto 7 ligxile Kundawo Nesimo (Ijijomethri) ngesikhathi Isonto 8 ligxile Isilinganiso. Okugxilwe kukho Kwesonto 9 Ithemu 1 kuphinda futhi kuba ngolwazi lwenombolo. Kule seshini, uzophenya ubudlelwane phakathi kwezinzombolo.



### Umsebenzi 12

Bhekisa ekubukeni ulwazi ngelibanzi Ezinombolweni, Izimpawu kanye Nobudlelwane Bazo emakhasini 114–123 *Omhlahlandlela Wokuqonda Isifundo*. Eqenjini lenu, xoxani ngalezi zinto ezilandelayo zokubuka ulwazi ngelibanzi:

1. Sithini Isihloko 1.4?
2. Yiziphi izihlokwana ezibhalwe ngaphansi kwalesi sihloko?
3. Uyini umehluko phakathi kombhalo ongombala oluhlaza okwesibhakabhaka kanye nomnyama? Chaza ukuthi kungani ucabanga ukuthi kunjalo.

## Ukubala

### Amanothi omdidiyeli

- ◆ Khombisa abafundi beBanga R ukuthi bangenzi izimpawu zezinzombolo ezifana nokuhlanganisa kanye nokususa, ukuphindaphinda kanye nokuhlukanisa. Nika isibonelo sokuthi lolu lwazi lungathuthukiswa kanjani ngokubala kanye nokwenza okuthile ezintweni eziqinile kanye nangokuxazulula izinkinga ezimweni ezifanele zempilo yangempela.
- ◆ Khombisa imisebenzi ebandakanya ukuhlakaza kanye nokuthuthukisa izinzombolo ('Xukuza bese wehlukhanisa' emakhasini 166–169 *Omhlahlandlela Wemisebenzi: Ithemu 1*).
- ◆ Ngemva kokukhombisa, cela ababambiqhaza ukuthi baqedele **Umsebenzi 13**. Cela umuntu oyedwa eqenjini ngalinye ukuthi abelane nabanye ngemicabango yakhe.
- ◆ Xoxa ngokuthi yimiphi imibuzo ebivulekile nokuthi yimiphi imibuzo ebivalekile.
- ◆ Khumbuza ababambiqhaza ukuthi akubona bonke abafundi abazokhombisa ukuqonda ulwazi lwezinzombolo ngesikhathi esifanayo (**umgomo wamazinga**).

Abafundi beBanga R abenzi izimpawu zezinzombolo ezifana nokuhlanganisa kanye nokususa, ukuphindaphinda kanye nokuhlukanisa. Le miqondo ithuthukiswa kancane kancane ngokuphenya kanye nokusombulula izinkinga. Isibonelo: *Nginama-apula amathathu. Ngidla elilodwa. Ngisele nama-apula amangaki?*

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?

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Combining (adding) and separating (subtraction).

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

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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 kumele baqonde ubudlelwane phakathi kwezinombolo. Imisebenzi embandakanya ukuhlakaza kanye nokuthuthukisa izinombolo isiza abafundi ukuthi baqonde ukudlelwane phakathi kwenombolo kanye nenani lenombolo. Isibonelo: *u-5 wakiwe ngu-2 no-3, 1 no-4.*

## Ukukhombisa

Bheka ukukhonjiswa komdlalo 'shukuza bese uhlukanisa' bese uxoxa eqenjini ngokubonile.



### Umsebenzi 13

Xoxa ngalokho okukhonjiswayo osanda kukubuka.

1. Yiluphi ulwazi lwezinombolo olungafundwa abafundi ngokudlala lo mdlalo?

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Ukudidiyela (ukuhlanganisa) kanye nokuhlukanisa (ukususa).

2. Yimiphi imibuzo umdidiyeli ayisebenzisile ukugqamisa ukuhlanganisa kanye nokususa?

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Ngabe nginezinto zokubala ezingaki kulesi sandla? Kulesi sandla khona? Ngizozihlanganisa; ngabe nginezingaki?

Uzihlukanise kanjani izinto zakho zokubala?

Ngabe unezingaki esivalweni ngasinye? Uma uzihlanganisa ngabe unezingaki?

Uma ususa lezi ezisesivalweni uzosala nezingaki?

Akubona bonke abafundi abazokhombisa ukuqonda ulwazi lwezinombolo ngesikhathi esifanayo (**umgomo wamazinga**).

# 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

# Iseshini 5: Ukuhlelela ukufundisa

1 ihora

## Amanothi omdidiyeli

- ◆ Bhekisa ababambiqhaza Kusithasiselo A: Ithemu 1 Iqoqa Lolwazi Lwesonto Ngalinye (Amasonto 6–9)
- ◆ Funda imisebenzi yekilasi lonke, eholwa uthisha kanye neyesiteshi sokusebenzela.
- ◆ Yenza ababambiqhaza basebenze ngamaqembu ukuze baqedele **Umsebenzi 14**.

## Ithemu 1 Iqoqa Lolwazi (Amasonto 6–9)

Isithasiselo A: Ithemu 1 Iqoqa Lolwazi Lwesonto Ngalinye (Amasonto 6–9), ivera okubalulekile Iyingxenywe Yolwazi Okugxilwe Kuyo isonto ngalinye, izihloko zokufanele kudingidwe, ulwazi olusha nokuzijwayeza kugxilwe kulo isonto ngalinye, kanye nemisebenzi esikiselwe ekilasini lonke, uthisha. Umsebenzi weqembu oqondisiwe futhi ozimele wesonto lonke.



### Umsebenzi 14

Bheka Isithasiselo A: Ithemu 1 Iqoqa Lolwazi Lwesonto Ngalinye (Amasonto 6–9).

Phendula imibuzo.

Imibuzo	Isonto 6	Isonto 7	Isonto 8	Isonto 9
Iyiphi Ingxenywe Yolwazi Okugxilwe kuyo yesonto?	Amaphethini, Amafankshini kanye ne-Aljebhra	Indawo Nesimo (Ijijomethri)	Isilinganiso	Inombolo, Izimpawu kanye Nobudlelwane Bazo
Yiluphi ulwazi (umqondo) olusemqoka oluzofundwa abafundi?	Amaphethini Inombolo 3 Ukulandelanisa izinombolo	Izimo ezingu-2-D Umfanekiso wento Isikhundla Ukubala ngomlomo	Ubude/ukuphakama Isikhathi	Ukulinganisela Okuningi nokuncane Isikhundla Ukuxazulula izinkinga
Yiluphi ulwazi olusha olwethulwayo?	Ukuhlonza amaphethini Ukukopisha amaphethini Inombolo 3 Izinombolo ezilandelanayo 1–3	Onxantathu abangu-2-D Umfanekiso wento Isikhundla: ngaphambili, ngemuva	Ukulandelanisa isikhathi: imini nobusuku; ukukhanya nobumnyama Ubude: ishadi lobude Isikhundla: ngaphezu, ngaphansi, phezu kwe-Ukubala uhlehle 5–1	Ukulinganisela Izinombolo ezimweni ezejwayelekile Enye ngaphezulu, encane ngeyodwa Isikhundla: phezulu/phansi
Imaphi amakhono asetshenziswayo?	Ukubala ngomlomo 1–5 Ukubala izinto 1–5 Gcizelela ulwazi lwezizinombolo 1 no-2	Indilinga, isikwele Ukubala izinto 1–5 Ukugxilisa umqondo wenombolo 1–3 Izinombolo ezilandelanayo 1–3 Ukuvumelanisa Kukhulu, kuncane	Ukubala ngomlomo 1–10 Izinombolo ezilandelanayo 1–3 Ukubala izinto 1–5 Qinisekisa 1–3	Ukubala ngomlomo 1–10 Sibala uhlehle ukusuka ku-5 Izinombolo ezilandelanayo 1–3 Ukubala izinto 1–5 Ulwazi lwenombolo 1–3 Ukuxazulula izinkinga Indilinga, isikwele, unxantathu

## 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: Amasonto 6, 7, 8 no-9

Bheka Isonto 6, 7, 8 no-9 Kumhlahlandlela Wemisebenzi: Ithemu 1. Qedela Umsebenzi 15 eqenjini lakho.



### Umsebenzi 15

Thola Isonto 6, 7, 8 kanye nele-9 Kumhlahlandlela Wemisebenzi. Ithemu 1. Phendula imibuzo.

1. Iyiphi Ingxenye Yolwazi Okugxilwe Kuyo yesonto?
2. Yiziphi izihloko nolwazi olusha okufundiswa isonto ngalinye?
3. Ngabe okuqukethwe ku'Zejwayeze' kuxhuma kanjani nesonto eledlule?
4. Yini okudingeka uyilungiselele ngaphambi kokufundisa isonto ngalinye?
5. Funda imisebenzi yekilasi lonke kanye nemisebenzi yamaqembu amancane.
6. Xoxani eqenjini lenu elincane ukuthi nizoba namaphi amasu futhi nilihlele kanjani ikilasi lenu kulawa masonto amane okufundisa.



Khumbula ukuthi kuBanga R ukuhlola akuhleliwe futhi kuyaqhubeka. Kumele sibheke abafundi usuku lonke, ngaphakathi nangaphandle kwekilasi. Isithonjana sehlo sisikhumbuza ukuthi kufanele sibheke abafundi ngenkathi bematasa, futhi sidinga ukulalelisisa lapho bekhuluma nathi kanye nozakwabo.

Uhlelo Lwezibalo lwenzelwe ukushintshana kwamaqembu amancane esontweni, kanti uthisha unaka kakhulu iqembu elilodwa ngelanga, ebukele futhi elalele ngesikhathi abafundi beqeda imisebenzi ethile. Lesi sikhathi sinika uthisha ithuba lokubheka ngokucophelela umfundi ngamunye, futhi aqoqe ulwazi ngenqubekela phambili yakhe.

Bheka ibhulokhi ehlikihlwe ngombala ekupheleni komsebenzi oholwa nguthisha: **'Hlola ukuthi abafundi bayakwazi uku-'**. Uthisha ubhala engqondweni ngomfundi ngamunye futhi uma abafundi sebegodukile, ubhala phansi akuqaphele encwadini yokuqaphela enendawo yamanothi omfundi ngamunye.

## Imisebenzi yokuvala

### Amanothi omdidiyeli

- ◆ **Izifundo ezifundiwe:** Cela ababambiqhaza ukuthi bacabange ngalokho abakufundile ngesikhathi somhlangano bese ngamunye eqedela **Umsebenzi 16**.
- ◆ **Umsebenzi obuyela nawo esikoleni:** Funda lo msebenzi. Buza ukuthi kukhona yini okungacacile futhi okudinga incazelo eyengeziwe.
- ◆ **Ukuhlola:** Nikeza amakhophi eFomu Lokuhlola Lomhlangano Wokucobelelana Ngolwazi bese ucela ababambiqhaza ukuthi bagcwalise leli fomu.
- ◆ **Umhlangano wokucobelelana ngolwazi olandelayo:** Nikeza izinsuku zomhlangano wokucobelelana ngolwazi olandelayo bese uvala umhlangano wokucobelelana ngolwazi.



## 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

**Izifundo ezifundiwe:** Cabanga ngalokho okufundile ngesikhathi somhlangano wokucobelelana ngolwazi bese uqedela ithebhula.

Izinto esengivele ngizenza ezisebenza kahle	Ulwazi olusha engingathanda ukuluzama



### Umsebenzi obuyela nawo esikoleni

1. Funda *Umhlahlandlela Wokuqonda Isifundo* amakhasi okubhekiswe kuwo ngesikhathi salo mhlango wokucobelelana ngolwazi.
2. Sebenzisa *Umhlahlandlela Wemisebenzi: Ithemu 1* ukuhlela nokusebenzisa Amasonto 6–9 oHlelo Lwezibalo, okuhlanganisa nokwakha indawo yezibalo egxile kulwazi lwesonto ngalinye.
3. Bhala ukubuyekeza lokho okusebenze kahle nalokho okungasebenzanga kahle. Letha uhlelo lwakho nokuhlola kuwo umhlangano wokucobelelana ngolwazi olulandelayo.
4. Letha izibonelo noma izithombe zomsebenzi owenziwe abafundi.

### Ukuhlola

Gcwalisa Ifomu Lokuhlola.

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

### Term 1: Activity Plan

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

## ISITHASISELO A: Ithemu 1 IQOQA LOLWAZI LWESONTO NGALINYE (AMASONTO 6-9)

### Ithemu 1: Uhlelo Lomsebenzi

Isonto 6				
<b>INGXENYE YOLWAZI:</b> AMAPHETHINI, AMAFANKSHINI kanye ne-ALJEBHRA				
<b>ISIHLOKO:</b> Amaphethini ejiyomethri				
<b>YETHULA ULWAZI OLUSHA:</b> Hlonza amaphethini, kopisha amaphethini, qedela amaphethini, yethula inombolo 3, ukulandelana kwezombolo 1-3. Ukwenza amaqembu afane.				
<b>ZEJWAYEZE:</b> Ukubala ngomlomo 1-5, ukubala izinto 1-5, ulwazi lwenombolo 1 no 2, indilinga, isikwele, okukhulu kanye nokuncane, ukuya phambili nasemuva.				
Imisebenzi yekilasi lonke		Umsebenzi oholwa nguthisha		Imisebenzi yesiteshi sokusebenzela
<b>Usuku 1</b>	Yethula inombolo 3; indaba yefrizi yezinombolo.	Dlala umdlalo wokunyakaza usebenzisa izimpawu 1 no-2. Qondanisa futhi uhlele amakhadi anamachashazi anesithombe/anezinombolo 1-3. Iphethini elula usebenzisa izinto zokubala. Xoxa ngephethini, sebenzisa izinto zokubala ukukopisha iphethini. Ukuxazulula izinkinga 1-3. Ukwenza amaqembu afane.	<b>Umsebenzi 1</b> <b>Umsebenzi 2</b> <b>Umsebenzi 3</b> <b>Umsebenzi 4</b>	Yenza uhlaka lwesithombe usebenzisa iphethini, bese udweba izinto ezintathu. Ukubala kwezixivizo zeminwe. Amakhadi amaphethini asebenzisa izinto zokubala nezinti. Ithempulethi enehlama yokudlala – yenza 3.
<b>Usuku 2</b>	Usebenzisa izindilinga ezinobukhulu nemibala ehlukeneyo ukwenza amaphethini alula. Xoxa ngamaphethini (ukuphindaphinda, umehluko, ukufana).			
<b>Usuku 3</b>	Amaphethini okushaywa komzimba nokuxazulula izinkinga.			
<b>Usuku 4</b>	Ukusebenzisa izindilinga kanye nezinto ezinkulu nezincane ukwenza amaphethini alula. Hlonza amaphethini ekilasini.			
<b>Usuku 5</b>	Ukuxazulula izinkinga 1-3. Ukwenza amaqembu afane.			
Isonto 7				
<b>INGXENYE YOLWAZI:</b> INDAWO NESIMO (IJIYOMETHRI)				
<b>ISIHLOKO:</b> Bona, hlonza bese usho igama lesimo esingu-2-D: unxantathu; chaza bese uqhathanisa izinto ezingu-3-D nezimo ezingu-2-D: unxantathu; izimo ezingu-2-D; isithombe saphansi wesithombe; ukuvumelanisa				
<b>YETHULA ULWAZI OLUSHA:</b> Unxantathu; isithombe saphansi; isikhundla (ngaphambili nangemuva); ukubala ngomlomo 1-10				
<b>ZEJWAYEZE:</b> Ukubala ngomlomo 1-10, ukulandelanisa inombolo 1-3, ukubala izinto 1-5, gizelela ulwazi lwenombolo 1-3, iyiphi inombolo engaphambi/engemuva, indilinga, isikwele, ukuvumelanisa, enkulu nencane				
Imisebenzi yekilasi lonke		Umsebenzi oholwa nguthisha		Imisebenzi yesiteshi sokusebenzela
<b>Usuku 1</b>	Yethula unxantathu nokwakheka kwawo.	Ukubala ngomlomo Thinta futhi ubale usebenzisa imibhoshongo yezinombolo 1-3 (Amabhulokhi axhumayo). Okukodwa okuqondene nokunye. Izakhiwo zikanxantathu (2-D). Hlunga futhi uqhathanise izinto ezingu-3-D kanye nezimo ezingu-2-D emaqenjini amabili, elilodwa elonxantathu nelilodwa elingelona elonxantathu.	<b>Umsebenzi 1</b> <b>Umsebenzi 2</b> <b>Umsebenzi 3</b> <b>Umsebenzi 4</b>	Umsebenzi wonxantathu – sika bese uhlobisa onxantathu abane. Amaphrinti ovmvane – ukuvumelanisa. Isimo somuntu – sebenzisa izimo esezivele zisikiwe. Amaphazili ezimo – (angekho ngaphansi kwezingcezu eziyisithupha).
<b>Usuku 2</b>	Hlonza isimo esingunxantathu kulo i <i>Bhuku Lamaphosta</i> , ukuxazulula izinkinga.			
<b>Usuku 3</b>	Ngaphambili nangemuva; ukuwela umugqa omaphakathi.			
<b>Usuku 4</b>	Qhathanisa enkulu nencane kakhulu. Okukhulu nokuncane.			
<b>Usuku 5</b>	Ukuvumelanisa.			

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

<b>Isonto 8</b>				
<b>INGXENYE YOLWAZI: ISILINGANISO</b>				
<b>ISIHLOKO: Isikhathi: imini nobusuku; Ubude: qhathanisa futhi uhlele izinto ukuchaza ubude</b>				
<b>YETHULA ULWAZI OLUSHA:</b> Ukulandelanisa imini nobusuku, ukukhanya nobumnyama; ishadi lobude; isikhundla (phezu, ngaphansi, phezulu, ngezansi, eduze, phakathi); ukubala uhlehle 5-1				
<b>ZEJWAYEZE:</b> Ukubala ngomlomo 1-10, ukubala uhlehle ukusuka ku-5, ukulandelanisa izinombolo 1-3, ukubala izinto 1-5, gcizelela ulwazi lwenombolo 1-3, amaphethini				
<b>Imisebenzi yekilasi lonke</b>		<b>Umsebenzi oholwa nguthisha</b>		<b>Imisebenzi yesiteshi sokusebenzela</b>
<b>Usuku 1</b>	Imini nobusuku; ukukhanya nobumnyama.	Isingeniso esijwayelekile.		<b>Umsebenzi 1</b> <b>Umsebenzi 2</b> <b>Umsebenzi 3</b>  <b>Umsebenzi 4</b> Umsebenzi wemini nobusuku – ukusika ukhiphe izithombe. Dweba kusukela kokufushane ukuya kokude kakhulu. Namathisela izimo ukusuka kwezinkulu ukuya kwezincane kakhulu. Amakhadi afanayo emini/ubusuku.
<b>Usuku 2</b>	Yethula ishadi lobude; isilulumagama sesikhundla.	Imisebenzi yemini nobusuku; ukukhanya nobumnyama.		
<b>Usuku 3</b>	Ishadi lobude. Ukuhlunga izinto zansuku zonke zemini nobusuku.	- ubhulankethi - amakhadi omsebenzi.		
<b>Usuku 4</b>	Iphosta – Imini nobusuku. Isilulumagama sesikhundla: ngaphezu, ngaphansi, ngezansi nangaphezulu.	Indaba yemini nobusuku nokulandelana. Isikhundla (phezu, phansi, ngaphansi, phezulu, eduze, phakathi).		
<b>Usuku 5</b>	Qhathanisa ukuphakama. Izikhundla zokunyakaza.	Iphethini (izilwane). Ishadi lobude		
<b>Isonto 9</b>				
<b>INGXENYE YOLWAZI: IZINOMBOLO, IZIMPAWU kanye NOBUDLELWANE BAZO</b>				
<b>ISIHLOKO: Chaza, hlela bese uqhathanisa izinombolo; isilinganiso; amasu okuxazulula izinkinga; ukusebenzisa izinombolo ezimweni ezejwayelekile; isikhundla</b>				
<b>YETHULA ULWAZI OLUSHA:</b> Isilinganiso, izinombolo ezimweni ezejwayelekile, eyodwa ngaphezulu, eyodwa kancane, isikhundla (phezulu/phansi)				
<b>ZEJWAYEZE:</b> Ukubala ngomlomo 1-10, ukubala uhlehle ukusuka ku-5, ukulandelanisa izinombolo 1-3, ukubala izinto 1-5, gcizelela ulwazi lwenombolo 1-3, izindlela zokuxazulula izinkinga. Indilinga, isikwele kanye nonxantathu.				
<b>Imisebenzi yekilasi lonke</b>		<b>Umsebenzi oholwa nguthisha</b>		<b>Imisebenzi yesiteshi sokusebenzela</b>
<b>Usuku 1</b>	Chaza bese uhlela ngokulandelana izinombolo 1-3	Ukubala ngomlomo. Okukodwa okuqondene nokunye.		<b>Umsebenzi 1</b> <b>Umsebenzi 2</b> <b>Umsebenzi 3</b>  <b>Umsebenzi 4</b> Inhlama yokudlala yenza izinto ezi-1-3. Dweba izithombe 1-3 ngezimo. Ukunamathisela. Isithombe esinezinkanyezi ezintathu, izihlahla ezimbili, inyanga eyodwa. Amaphazili (angekho ngaphansi kwezingcezu eziyisithupha).
<b>Usuku 2</b>	Ukumela ukuqondana kwezinombolo 1-3. Ukulinganisela.	Chaza bese uhlela ngokulandelana izinombolo 1-3.		
<b>Usuku 3</b>	Ukubala – eyodwa ngaphezulu/eyodwa ngaphansi. Isikhundla: phezulu naphansi.	Ukulinganisela. Xukuza bese uphula.		
<b>Usuku 4</b>	Ukuxazulula izinkinga (ngaphezulu/ngaphansi). Iphosta 1:			
<b>Usuku 5</b>	Ukusebenzisa inombolo ezimweni ezejwayelekile: Uneminyaka emingaki?			

# Workshop 3 Evaluation Form

1. Did the workshop meet your expectations?

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

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

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

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

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# Ifomu Lokuhlola Lomhlangano Wokucobelelana Ngolwazi 3

1. Ngabe umhlangano wokucobelelana ngolwazi uhlangabezene nalokho obukulindele?

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2. Yini oyifundile kulo mhlangano wokucobelelana ngolwazi ekusize kakhulu?

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3. Ngabe kukhona ongakuthandanga noma okuthola kunzima ukukuqonda?

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4. Uzokusebenzisa kanjani lokho okufundile ekilasini lakho leBanga R?

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5. Ngabe unazo iziphakamiso zokuthuthukisa eminye imihlangano yokucobelelana ngolwazi?

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