IsiXhosa/English

# INkqubo yeMathematika yokuPhucula yeBanga R
# Grade R Mathematics Improvement Programme



## INdibano yoCweyo 3 ● Workshop 3
## IsiKhokelo somBhexeshi ● Facilitator's Guide

**ACKNOWLEDGEMENTS**

**IMIBULELO**

# Contents

**Overview**

**Workshop content**

# Isiqulatho

## Amagqabantshintshi

## Umxholo wendibano yocweyo

# Overview

## Purpose

This is the third 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 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)

# Amagqabantshintshi

**Injongo**

Le yeyesithathu kwezilishumi elinambini iindibano zocweyo zeNkqubo yeMathematika yokuPhucula yeBanga R (iNkqubo yeMathematika) neyinxalenye yeProjekthi yeBanga R yokuPhucula yeMathematika noLwimi yeSebe leMfundo laseGauteng (Gauteng Department of Education (GDE)).

Injongo yale ndibano yocweyo kukuncedisa ootitshala ukuba baphumeze iNkqubo yeMathematika eziklasini zabo. Abathathinxaxheba bazakomeleza ingqiqo yabo yeeNkalo zomXholo zika-CAPS ezizakwenziwa kwiiVeki 6–9 zeKota 1 baze baziqhelise ngezakhono zongenelelo lokufundwa kwemathematika.

Ubhekiso kwiiNkalo zomXholo weMathematika weBanga R luthathwe *kwiNkcazelo yePolisi yeKharityhulam nokuHlola (CAPS): IBanga R iMathematika (idrafti yokugqibela)*, 2011, iSebe leMfundo esiSiseko, yaseMzantsi Afrika.

**Iziphumo zokufunda**

♦   Ukuthetha ngokuphunyezwa kweKota 1 iiVeki 3–5
♦   Ukusebenzisa imigaqo yeNkqubo yeMathematika kucwangciso lweveki
♦   Ukuqwalasela amacebo okunika inkxaso ekufundisweni kwemathematika kwiBanga R
♦   Ukuqwalasela umxholo weNkqubo yeMathematika weKota 1 iiVeki 6–9 (IiPateni, iiFanshini neAljibhra; IsiThuba neMilo (iJiyometri); Umlinganiselo; Amanani, iiOpareyshini noLwalamano)
♦   Ukuqalisa ukuqonda indlela umdla owahlukileyo wabafundi namazinga wezakhono zabo onegalelo ngayo ekufundeni nasekufundiseni

**Umxholo wendibano yocweyo**

♦   Ukuvula nocamngco                                                          (1 iyure)
♦   Iseshoni 1: IiPateni, iiFanshini neAljibhra                      (1 iyure)
ITI
♦   Iseshoni 2: IsiThuba neMilo (iJiyometri)                       (1 iyure)
♦   Iseshoni 3: Umlinganiselo                                             (1 iyure)
ISIDLO SASEMINI
♦   Iseshoni 4: Amanani, iiOpareyshini noLwalamano         (1 iyure)
♦   Iseshoni 5: Ukucwangcisela ukufundisa                        (1 iyure)

## 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

**Ulungiselelo**

♦ PPT ulwamkelo neziphumo

♦ Funda:

*IsiKhokelo seeKhonsepthi*, amaphepha 114–137

*IsiKhokelo semiSebenzi: Ikota 1*, amaphepha 18–21

Isingeniso A: Ikota 1 Isishwankathelo soMxholo weVeki neVeki

♦ Beka *iKiti yeziXhobo* yeNkqubo yeMathematika kwitafile yeqela ngalinye.

**Iimathiriyeli**

♦ Iphepha lefliptshathi, iikhoki

♦ *IKiti yeziXhobo* yeqela ngalinye

♦ *INcwadi yeePowusta* yeqela ngalinye

♦ *IKiti yeziXhobo*: iibhloko zeathribhyuthi

# Opening and reflection

**1 hour**

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

## Activity 1

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

## Video 1

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

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

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

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_____

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_____

# Ukuvula nocamngco

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**Amanqaku ombhexeshi**

♦ PPT: Vula iseshoni uze ufunde iajenda neziphumo zendibano yocweyo.

♦ Bakhumbuze abathathinxaxheba ngo*Msebenzi ekubuyelwa nawo esikolweni* wasekupheleni kweNdibano yoCweyo 2. Cela abathathinxaxheba ukuba bacinge ngalo msebenzi kwanokuphunyezwa kweeVeki 3-5 baze benze **Umsebenzi 1**.

♦ Amaqela abelana ngamanqaku angundoqo neqela elikhulu. Thetha ngendlela uhlolo oluqhubekeka ngayo kwanokuba ukuqwalaselwa kufuneka kube yinto eqhubekayo.

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Thethani ngokuphunyezwa kweNkqubo yeMathematika kwinkqubo yemihla ngemihla nize nenze lo msebenzi ulandelayo kumaqela enu.

## Umsebenzi 1

1. Xoxani ngenkqubela ekuphunyezweni kweeVeki 3–5 kunye no*Msebenzi ekubuyelwa nawo esikolweni* weNdibano yoCweyo 2.
2. Yabelanani ngeefoto zenu ezigxile kwisiThuba neMilo (iJiyometri) kwindawo yemathematika.
3. Nikurekhode njani oko nikuqwalaseleyo ngomfundi ngamnye ngexesha lomsebenzi okhokelwa ngutitshala?
4. Yeyiphi imigaqo yokufundisa oyazi ncakasana eklasini yakho?

## Ividiyo 1

*IsiKhokelo semiSebenzi: Ikota 1*, iVeki 3, Usuku 2 #1, 2 no3 (iphepha 57)

Bukela ividiyo engendlela utitshala asisebenzisa ngayo isicengcelezo ukuqhelisa ukubala nokusombulula iingxaki zamagama.

Xoxani ngendlela enikwaze ngayo ukukwenza oku kunye nezinye izifundo ezibandakanya izicengcelezo kwimisebenzi yokubala.

_____
_____
_____
_____

# Session 1: Patterns, Functions and Algebra

**1 hour**

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

## Term 1 Content overview: Patterns, Functions and Algebra

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

### Activity 2

In your group, discuss:

1. What concepts are covered in Term 1?

_____

_____

_____

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

_____

_____

_____

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).

# Iseshoni 1: IiPateni, iiFanshini neAljibhra

**1 iyure**

Le ndibano yocweyo igxile ekufundiseni ngomxholo weNkqubo yeMathematika weKota 1 iiVeki 6-9. Le seshoni igxile kwiKota 1 iVeki 6: IiPateni, iiFanshini neAljibhra.

## Amagqabantshintshi ngomxholo weKota 1: IiPateni, iiFanshini neAljibhra

Jonga kwiNkalo yoMxholo weePateni, iiFanshini neAljibhra kwiphepha 125 *isiKhokelo seeKhonsepthi*.

### Umsebenzi 2

Kwiqela lenu, xoxani ngokuba:

1. Zeziphi iikhonsepthi eziqukwe kwiKota 1?

_____

_____

_____

2. Zintoni ezingumahluko phakathi komxholo kunye nomxholo kaCAPS?

_____

_____

_____

Ukunakana uphindaphindo kwiipateni.

Yazisa ngesigama, umz. Yintoni elandelayo? Yintoni eza kuqala?

Yenza eyakho ipateni usebenzisa izinto eziphathekayo, imizobo, iipateni zejiyometri.

Cacisa ipateni yakho (umgaqo wophindaphinda).

## Understanding patterns

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

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

### Activity 3

In your group, discuss:

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

_____
_____

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

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

♦      What patterns do you see?

_____
_____

♦      What is the pattern?

_____
_____

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

## Ukuqonda iipateni

Ukuseka ingqiqo yeepateni kuyinxenye ebalulekileyo kwimathematika. Iipateni zisingqongile kwaye abantwana badibana neepateni ezininzi kubomi babo bemihla ngemihla emakhaya nasesikolweni.

Cinga ngeyakho ingqiqo yeNkalo yoMxholo: IiPateni, iiFanshini neAljibhra uze wenze Umsebenzi 3 neqela lakho.

**Umsebenzi 3**

Kwiqela lenu, xoxani:

1. Zeziphi iindidi zeepateni ezinokuqwalaselwa ngabafundi beBanga R kubomi babo bemihla ngemihla?

_____

_____

Iipateni ezimpahleni, kwizakhiwo, kwindalo (umz. intyatyambo, indlwana yeenyosi).

2. Jonga iPowusta 7 kwi*Ncwadi yeePowusta*.

♦ Zeziphi iipateni ozibonayo?

_____

_____

♦ Yintoni ipateni?

_____

_____

Yalatha inxenye 'yokuphindwa' kwepateni.

Izinto ziyaphindwa (ngaphandle kwepateni engaqhelekanga, umz. ixolo lomthi, iipateni ezizenzekelayo ephepheni okanye elaphini).

♦ Can you repeat the pattern? Explain.

_____

_____

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

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

## Identifying patterns

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

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

**Activity 4**



1. Which shape is first?

_____

2. Which shape is next?

_____

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

_____

4. How would you extend the pattern?

_____

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

♦    Ingaba ungakwazi ukuyiphinda le pateni? Cacisa.

_____

_____


**Ipateni** ulandelelwano lwezinto njengesiqhelo, iintshukumo okanye iziganeko eziphindaphindeneyo ngendlela enokuxelwa kwangaphambili.
**Ulandelelaniso** yindlela ethile apho izinto, iintshukumo okanye iziganeko ezilandelelana ngayo.


## Ukwalatha iipateni

Kwipateni engalandelelaniyo singabona indlela amalungu akwipateni aphindwe ngayo. Singaqikelela nendlela okanye ulandelelwaniso lwamalungu nokuba azakuphindaphindwa njani ukwenza ipateni. Kwipateni engezantsi singabona ukuba isangqa nesikwere ziyaphindwa kwaye sinokuqikelela ukuba imilo elandelayo kulandelelwano izakuba yeyiphi na.

**Umsebenzi 4**

1.  Yeyiphi imilo eza kuqala?
_____

2.  Yeyiphi imilo elandelayo?
_____

3.  Ucinga ukuba yeyiphi imilo ezakulandela emva kwesikwere sokugqibela?
_____

4.  Ungayandisa njani ipateni?
_____


Iipateni eziphindaphindwayo zenziwe ngolandelelwano lwamalungu, umz. iimilo, imibala, izandi, izinto, iintshukumo.

♦ PPT: Display the following sequence of attribute blocks:



| yellow | red | blue | yellow |

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

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

## Activity 5

1. What is the pattern?

_____

_____

2. What is the repeating part of the sequence?

_____

_____

**Facilitator's notes**

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

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

♦ Emphasise that teachers should always repeat the pattern at least twice before asking learners to extend it, for example:
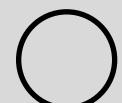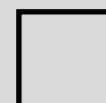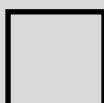


♦ After these activities highlight the importance of introducing learners to patterns that have only one attribute that differs, e.g. shape, and providing them with a long enough repeat sequence (e.g. three repeats) so that they can work out the pattern.

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

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

Kumsebenzi olandelayo, umbhexeshi uzakunibonisa ulandelelwano lweemilo. Nizakusebenzisa iibhloko zeathribhyuthi ezisezitafileni zenu ukukhuphela olu landelelwano nize nixoxe ngendlela enizakuyongeza ngayo ukwenza ipateni.

**Umsebenzi 5**

1. Yintoni ipateni?

_____

_____

2. Yeyiphi inxenye eziphindaphindayo yepateni?

_____

_____

19

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

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

## Video 2

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

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

_____

_____

_____

_____

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

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

Yazisa abafundi kwiipateni eziqala ngeathribhyuthi enye eyahlukileyo, umz. imilo, uze ubonelele ngezinto ezaneleyo kulandelelwano ukwenzela ukuba abafundi bakwazi ukufumanisa ukuba ithini ipateni leyo (inxenye eziphindaphindayo kulandelelwano).

Kubalulekile ukuba ootitshala babanike amathuba aliqela abafundi okwalatha, ukukhuphela nokwenza iindidi ezahlukileyo zeepateni besebenzisa izandi, iintshukumo, izinto kunye nemifanekiso.

### ▷ Ividiyo 2

Bukela ividiyo katitshala elungiselela imisebenzi enika abafundi amathuba okwenza nokuxoxa ngeepateni.

Qaphela indlela utitshala akhokela ngayo abafundi ngemibuzo neengcebiso ukuze benze ipateni. Bhala phantsi isigama asisebenzisayo yena nabafundi ngexesha lale misebenzi.

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Jonga kumaphepha 160–173 e*siKhokelo seeKhonsepthi* ufunde banzi ngokufundiswa kweePateni, iiFanshini neAljibhra kwiBanga R. Kwakhona uzakufumana uluhlu lwemibuzo nesigama esifanelekileyo sale Nkalo yoMxholo.

**Umgaqo wenqanaba** uthi abafundi bakwinqanaba elahlukileyo lokuqala kwiBanga R. Ulwazi lwangaphambili lomfundi ngamnye lulinqanaba lokuqala loko bazakukufunda. Basenokusebenzisa oko basele bekwazi ukuze bafunde iikhonsepthi nezakhono ezintsha zemathematika.

# Session 2: Space and Shape (Geometry)       1 hour

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

## Term 1 Content overview: Space and Shape (Geometry)

### Activity 6

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

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

_____

_____

_____

_____

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

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

_____

_____

_____

_____

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

# Iseshoni 2: IsiThuba neMilo (iJiyometri)

**1 iyure**

Ekuzakugxilwa kuko kwiKota 1 iVeki 7 sisiThuba neMilo (iJiyometri). KwiNdibano yoCweyo 2, sixoxe ngezinto ezineenkangeleko ezintathu kunye neemilo ezineekangeleko ezimbini kwakunye nomxholo weVeki 3-5 ozakwenziwa eklasini.

## Amagqabantshintshi ngomxholo wekota 1: isiThuba neMilo (iJiyometri)

**Umsebenzi 6**

Jonga kwiNkalo yoMxholo wesiThuba neMilo (iJiyometri) kumaphepha 126-131 *esiKhokelo seeKhonsepthi*. Uzakubona izangqa, isikwere noonxantathu besaziswa kuCAPS kwiKota 1 kunye namaxande esaziswa kwiKota 4. INkqubo yeMathematika icebisa ukuba amaxande aziswe ngebhaqo kwiKota 1.

1. Xa ubufundisa izikwere ingaba ufumanise ukuba abafundi bayazibhidanisa izikwere namaxande? Nika izizathu ukuxhasa impendulo yakho.

   _____

   _____

   _____

   _____

   Abafundi badinga ukubona umahluko phakathi kwezi milo zimbini. Nangona zombini zinamacala amane neekona ezine, uxande lunamacala amabini amade namacala amabini amafutshane, logama isikwere sona sinamacala amane alinganayo ngobude.

2. Aziswe njani amaxande kwiVeki 3 yeNkqubo yeMathematika?

   _____

   _____

   _____

   _____

   Ngokusebenzisa iibhokisi nokuxoxa kunye nokuthelekisa amacala ebhokisi.

## Identifying 2-dimensional shapes (triangles)

| **Facilitator's notes** |
| :--- |
| ♦ Remind participants that in Workshop 2 they learnt about 3-dimensional objects and 2-dimensional shapes. <br> ***3-dimensional*** *means that an object has three dimensions: length, width and height.* <br> ***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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_____

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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. |

## Ukwalatha iimilo ezineenkangeleko ezimbini (oonxantathu)

**Amanqaku ombhexeshi**

- Khumbuza abathathinxaxheba ukuba kwiNdibano yocweyo 2 bafunde ngezinto ezineenkangeleko ezintathu kunye neemilo ezineenkangeleko ezimbini.

  Ukuba **neenkangeleko ezintathu (3-D)** *kuthetha ukuba into ineenkangeleko ezintathu: ubude, ububanzi no*mphakamo

  Ukuba **neenkangeleko ezimbini (2-D)** *kuthetha ukuba imilo inobude nobubanzi.*

- Cacisa ukuba oonxantathu bafundiswa ngendlela efanayo nezangqa kwiKota 1 (iVeki 7).

KwiBanga R abafundi banakana, balathe baze banike amagama eemilo ezineenkangeleko ezimbini: izangqa, oonxantathu kunye namaxande. INkqubo yeMathematika ikwacebisa ukuba abafundisa bakhuthazwe ukuba bachaze iimpawu zezi milo, umz. imigca engalileyo okanye enegophe, inani lemigca kunye neekona.

Abafundi basebenzisa ulwazi lwabo olutsha lweemilo baze bomeleze esi sifundo kwimisebenzi yamaqela amancinci.

🎥 **Ividiyo 3**

*IsiKhokelo semiSebenzi:Ikota1*, iVeki 7, iiNtsuku 1 no2 (amaphepha 120–125)

Bukela ividiyo yetitshala isazisa abafundi kunxantathu.

Qaphela indlela utitshala akhuthaza ngayo abafundi ukuba bachaze iimpawu zikanxantathu.

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_____

_____

_____

_____

**Amanqaku ombhexeshi**

- Ku**Msebenzi 7** abathathinxaxheba bazakuthetha ngendlela *iNcwadi yeePowusta* ezakusetyenziswa ngayo ngexesha lemisebenzi ukukhuthaza ingxoxo.

- PPT: Bonisa ngePowusta 8 uze ucele abathathinxaxheba ukuba baphendule imibuzo ku**Msebenzi 7**.

- Emva komsebenzi buza abathathinxaxheba ukuba zeziphi iimpawu zeemilo ezineenkangeleko ezimbini ekuxoxwe ngazo nokuba loluphi ulwimi lwemathematika olusetyenzisiweyo.

- Khumbuza abathathinxaxheba ukuba unkangelekombini uthetha ukuba imilo inobude nobubanzi nokuba unkangelekontathu uthetha ukuba into inobude, ububanzi nomphakamo.

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

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

## Activity 7

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

♦   How many triangles can you see? closed

_____

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

_____

♦   How many sides does it have? closed

_____

♦   How many corners does it have? closed

_____

♦   How many lines? closed

_____

♦   Can you see any other triangles? closed

_____

♦   What other shapes can you see? closed

_____

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

_____

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

_____

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

_____

_____

*IsiKhokelo semiSebenzi:Ikota 1* sibonelela ngamathuba amaninzi kwikota yonke okuba ootitshala basebenzise imibuzo evulekileyo. *INcwadi yeePowusta* iyasetyenziswa ngexesha lemisebenzi yeklasi yonke nemisebenzi yamaqela amancinci akhokelwa ngutitshala ukukhuthaza abafundi bavakalise izimvo zabo kwanokusombulula iingxaki.

KuMsebenzi 7, nizakuxoxa ngepowusta nize nithethe ngokuba imibuzo ebuziweyo iyimibuzo 'evulekileyo' okanye 'evalekileyo' na.

### Umsebenzi 7

1. Jonga kwiPowusta 8 uze uphendule le mibuzo ilandelayo.

♦ Bangaphi onxantathu obabonayo? <small>ovalekileyo</small>

_____

♦ Wazi njani ukuba ngunxantathu? <small>ovulekileyo</small>

_____

♦ Unamacala amangaphi? <small>ovalekileyo</small>

_____

♦ Uneekona ezingaphi? <small>ovalekileyo</small>

_____

♦ Mingaphi imigca? <small>ovalekileyo</small>

_____

♦ Ingaba bakhona abanye oonxantathu obabonayo? <small>ovalekileyo</small>

_____

♦ Zeziphi ezinye iimilo ozibonayo? <small>ovalekileyo</small>

_____

♦ Ezi milo zimbini zifana ngantoni? <small>ovulekileyo</small>

_____

♦ Zahluke ngantoni ezi milo zimbini? <small>ovulekileyo</small>

_____

2. Kule mibuzo ingentla yeyiphi evalekileyo iyeyiphi evulekileyo?

_____

_____

♦   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.

**Umgaqo wokukhokela** ukhuthaza ootitshala nabafundi ukuba basombulule iingxaki ngokusebenzisa iindlela zokubuza ezisebenzayo.

♦ **Imibuzo evalekileyo** yimibuzo eneempendulo ezisikelwe u'ewe' no'hayi'. Imibuzo evalekileyo isenokuba luncedo ekufumaniseni oko abafundi abakwaziyo, njengo-'Yeyiphi imilo engunxantathu?', 'Inombala onjani?'

♦ **Imibuzo evulekileyo** isenokuba neempendulo ezingaphezu kwenye, ivuselela ukucinga ize ikhuthaze abafundi ukuba bavakalise ezabo iimbono xa besombulula iingxaki.

Asingabo bonke abafundi abaza kuzibamba ezi khonsepthi okanye ukufunda ulwimi lwemathematika ngaxeshanye (**umgaqo wenqanaba**).

**Isigama semathematika**

Xa abafundi bephanda, kwaye bechaza iimilo nezinto, basebenzisa ulwimi lwemihla ngemihla njenge-'sicaba', 'gudile' kunye no-'tsolo'. Ootitshala basenokwazisa isigama semathametika esiza kusebenza endaweni yolwimi lwemihla ngemihla, umzekelo: imigca engalileyo, imigca enamagophe, iikona, amacala. Sikwathetha ngokuba inde kangakanani na into, ibanzi kangakanani size sibhekise kumphakamo wento ethile. Jonga kumaphepha 190–193 *esiKhokelo seeKhonsepthi* ukuze ufunde banzi ngokubuza imibuzo ephathelene nokufundisa kunye nokufunda ngeekhonsepthi zesiThuba neMilo (iJiyometri). Funda kwakhona kwiphepha 193 ukuze ufunde banzi ngesigama sesiThuba neMilo (iJiyometri) kwiBanga R.

# Session 3: Measurement

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

## Term 1 Content overview: Measurement

### Activity 8

Refer to the Measurement Content Area on pages 132–135 of the *Concept Guide*.

In your group, review:

1. What concepts are covered in Term 1?

_____

_____


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

_____

_____


## What is measurement?

# Iseshoni 3: Umlinganiselo

## Amanqaku ombhexeshi

- ♦ Cacisa ukuba okuzakugxilwa kuko kwiVeki 8 nguMlinganiselo.
- ♦ Thumela abathathinxaxheba kumaphepha 132–135 *esiKhokelo seeKhonsepthi*.
- ♦ Cela abathathinxaxheba ukuba basebenze ngokwamaqela ukuze benze u**Msebenzi 8**. Cela umntu omnye kwiqela ngalinye ukuba abelane ngeembono zeqela elo.

Okuzakugxilwa kuko kwiKota 1 iVeki 8 nguMlinganiselo: ixesha kunye nobude.

## Amagqabantshintshi ngomxholo weKota 1: Umlinganiselo

### Umsebenzi 8

Jonga kwiNkalo yoMxholo yoMlinganiselo ekumaphepha 132–135 *esiKhokelo seeKhonsepthi*.

Kumaqela enu, phononongani:

1. Zeziphi iikhonsepthi eziqukwe kwiKota 1?

_____

_____

2. Yintoni umahluko phakathi kwale khonsepthi kunye nomxholo kaCAPS?

_____

_____

## Yintoni umlinganiselo?

### Amanqaku ombhexeshi

- ♦ Cela abathathinxaxheba ukuba bacinge ngokuba yintoni na umlinganiselo.
- ♦ PPT: Umfanekiso ofanayo nalowo woMsebenzi 9.
- ♦ Abathathinxaxheba benza **Umsebenzi 9** baze babelane ngoko bakubhalileyo.
- ♦ Babonisana ngale mibuzo ilandelayo neqela:
  Ngubani omde kunabanye?
  Ngubani onzima kunabanye?
  Ngubani omdala kunabanye?
- ♦ Cacisa ukuba umlinganiselo ungokufumanisa ukuba into ethile 'ikangakanani', umz. ubude bento ethile, into ethile iqulatha kangakanani (umthamo), ubunzima bento ethile okanye kuthatha ixesha elingakanani ukwenza into ethile (ixesha).
- ♦ Cacisa ukuba ukuthetha ngomlinganiselo kufuneka utsho ukuba ufuna ukwenza umlinganiselo wantoni – iathribhyuthi. Nika imizekelo yeeathribhyuthi: ubude, umphakamo, ubunzima, umthamo.
- ♦ Sebenzisa ulwazi olungezantsi koMsebenzi 9 ukucacisa iiyunithi ezingekho sikweni nezisesikweni zokwenza umlinganiselo.
- ♦ Cacisa ukuba kwiBanga R, abafundi bafunda ukwenza imilinganiselo ngokungekho sikweni besebenzisa iiyunithi ezingekho sikweni zokwenza imilinganiselo ukulinganisa ixesha, ubude, ubunzima kunye nomthamo okanye 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 sizakuxoxa ngombuzo othi 'Yintoni umlinganiselo?'.

 **Umsebenzi 9**

Jonga lo mfanekiso ungezantsi uze uphendule umbuzo.



Ngowuphi oyena mkhulu?

_____

Umlinganiselo ungokufumanisa ukuba 'ikho kangakanani' into ethile, umz.:

♦ ubude bento ethile

♦ into ethile iqulatha kangakanani

♦ ubunzima bento ethile

♦ kuthatha ixesha elingakanani ukwenza into ethile.

Ukuze senze umlinganiselo, kufuneka sithathe isigqibo sokuba yeyiphi iathribhyuthi (uphawu) esifuna ukwenza umlinganiselo wayo, umz. ubude, ubunzima, ixesha.

Sisebenzisa la magama alandelayo ukuchaza imilinganiselo: de kune-, nzima kune-, dala kune-.

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:<br>Who is the tallest in the group? How do you know?<br>Who is the shortest in the group? How do you know?<br>Is anyone the same height? How do you know?<br>How can we find out?<br>♦ Have the participants stand back-to-back to compare their height. Afterwards, ask participants to complete **Activity 10**.<br>♦ Discuss that by directly comparing the attribute (height) of the two people, we could find out who was taller.<br>♦ 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.

Kufuneka sisebenzise iiyunithi ukwenza umlinganiselo. Ezi isenokuba ziiyunithi ezingekho sikweni okanye iiyunithi ezisesikweni.

♦ **Iiyunithi zomlinganiselo ezingekho sikweni** ziquka izandla, iinyawo, iikhrayoni, imicu yomsonto, amakhuni kunye neebhloko.

♦ **Iiyunithi zomlinganiselo ezisesikweni** ziquka iilitha, iimililitha, iikhilogram, iigram, iimitha, iiyure, imizuzu, njlnjl.

KwiBanga R abafundi benza imilinganiselo **ngokungekho sikweni** baze basebenzise **iiyunithi zomlinganiselo ezingekho sikweni** ukwenza umlinganiseo wexesha, ubunzima, umthamo nevolumu.

## Uthelekiso ngqo

| Amanqaku ombhexeshi |
| --- |
| ♦ Bonisa indlela olusetyenziswa ngayo uthelekiso ngqo kunye neeyunithi zomlinganiselo ezingekho sikweni. Cela amavolontiya abesibhozo azokuma ngaphambili. Buza: <br> Ngubani oyena mde kweli qela? Wazi njani? <br> Ngubani oyena mfutshane kweli qela? Wazi njani? <br> Ingaba bakhona abanobude obulinganayo? Wazi njani? <br> Singakufumanisa njani oko? |
| ♦ Cela abathathinxaxheba beme befulathelene ukuze kuthelekiswe ubude babo. Emva koko, cela abathathinxaxheba ukuba benze **Umsebenzi 10**. |
| ♦ Xoxa ngokuba ngokuthelekisa ngqo iathribhyuthi (umphakamo) wabantu ababini, sisenokufumanisa ukuba ngubani oyena mde. |
| ♦ Bonisa ukuba lo msebenzi womlinganiselo uthathwe kwiVeki 8 *yesiKhokelo semiSebenzi: Ikota 1* (amaphepha 136–149) kwanokuba abathathinxaxheba kufuneka bajonge kulo msebenzi xa besenza isicwangciso. |

Umlinganiselo kwiBanga R uquka ukuthelekisa 'ngqo' iathribhyuthi yento ethile nenye into. Umzekelo, ukwenza umlinganiselo wobude bekhrayoni ngenye ikhrayoni okanye ukuthelekisa ubude babafundi ababini bemile befulathelene.

Qwalaselani umbhexeshi xa esenza umlingnaiselo wabathathinxaxheba nize nenze Umsebenzi 10 kumaqela enu.

## Umsebenzi 10

Jonga kumaphepha 194–207 *esiKhokelo seeKhonsepthi* ukuze ufunde banzi ngoMlinganiselo nakumaphepha 136–149 *esiKhokelo semiSebenzi: Ikota 1* ngaphambi kokuba uphendule imibuzo engezantsi.

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

_____

Learners' bodies.

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

_____

E.g. string, pencil, block.

## Time

<table>
<tr><td><strong>Facilitator's notes</strong></td></tr>
<tr><td>

♦ 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.

</td></tr>
</table>

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

### Activity 11

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

_____
_____
_____
_____

1. Yeyiphi imilinganiselo engekho sikweni esetyenziswe ekwenzeni umlinganiselo womphakamo wabathathinxaxheba?

_____

Imizimba yabafundi.

2. Zeziphi ezinye iiyunithi ezingekho sikweni zomlinganiselo ezinokusetyenziswa ukwenza umlinganiselo womphakamo wabathathinxaxheba?

_____

Umz. umsonto, ipensile, ibhloko.


## Ixesha

Ixesha liyikhonsephi esengqondweni ekunzima ukuba abafundi bayiqonde. Abafundi kufuneka bayiqonde indlela elihamba ngayo ixesha ebomini babo, ngoko ke ootitshala kufuneka banxibelelanise ixesha namava kunye neziganeko zemihla zabafundi eziqhelekileyo kubo.


### Umsebenzi 11

Buyela umva kwiKota 1 iVeki 8 kw*isiKhokelo semiSebenzi: Ikota 1* uze neqabane nixoxe ngendlela ixesha elifundiswa ngayo kwezi zifundo. Yabelanani ngeembono zenu ngoku kulandelayo.

1. Ingaba ootitshala/abasebenzi beBanga R babanceda njani abafundi ukuba baqonde banzi ngeekhonsepthi:
♦ zemini nobusuku?
♦ zephezolo, namhlanje kunye ngomso?
♦ zithatha ixesha elingakanani izinto?
♦ zolandelelwano lwexesha?

_____
_____
_____
_____

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

_____
_____
_____
_____

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

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

_____
_____
_____

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

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

2. Ungayisebenzisa njani imisebenzi yenkqubo yemihla ngemihla ekufundiseni abafundi ngekhonsepthi yexesha?

_____
_____
_____
_____

Ukuxoxa ngemisebenzi yolandelelwano – umz. senza ntoni kuqala, silandele ngantoni, kwenzeke ntoni ngaphambi kweXesha lebali – nika amathuba okucamngca ngoko kwenzeke kuqala/okulandeleyo/ okugqibeleyo.

3. Sesiphi isigama esibalulekileyo ukuze uqonde ikhonsepthi yexesha?

_____
_____
_____

Ngaphambi, emva, ecaleni, ngoku, ngoko, imini, ubusuku, kusasa, emva kwemini, namhlanje, izolo, ngomso.

Jonga kumaphepha 194–207 *esiKhokelo seeKhonsepthi* ukuze ufunde banzi ngoMlinganiselo nexesha. Jonga kwiphepha 211 le*siKhokelo seeKhonsepthi* ukuze ufunde banzi ngokubuza imibuzo ephethelene nokufundisa nokufunda ngoMlinganiselo kwiBanga 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).
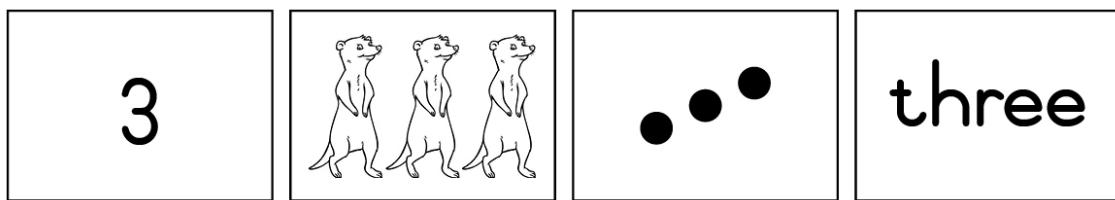


Look for objects and match the number symbol (3) and number word (three). In Week 6, learners are introduced to dot cards (from the *Resource Kit*). Learners match counters to the dot cards and discuss that 3 is made up of 1 and 2 dots.

# Iseshoni 4: Amanani, iiOpareyshini noLwalamano

---

**Amanqaku ombhexeshi**

♦ Tsalela umdla wabathathinxaxheba kwindlela elaziswa ngayo inani u3 kumaphepha 102–105 *esiKhokelo semiSebenzi: Ikota 1*.

♦ Cacisa ukuba nangona iNkalo yoMxholo iGxile kwiiPateni, iiFanshini neAljibhra kwiVeki 6, inani 3 nalo liyaziswa kule veki.

♦ Xoxa ngendlela elandelwe kumanani 1 no2 uze uqwalasele ukuba ingaba kulandelwa kwale ndlela ifanayo na kwinani u3. Xoxa ngendlela inani ngalinye lemifanekiso namachokoza lingaphezulu ngesinye kunelo lingaphambili uze wenze uqhagamshelwano kwinyaniso yokuba u2 ungentla ngesinye ku1 kwanokuba u3 ungentla ngesinte ku2.

♦ Cacisa ukuba kwiVeki 6 abafundi bakwaziswa kumakhadi anamachokoza.

♦ Sebenzisa amakhadi anamachokoza akw*iKiti yeziXhobo* ukubonisa indlela abafundi abatshatisa ngayo izixhobo zokubala namakhadi anamachokoza uze ufumanise ukuba u3 wenziwe ngechokoza eli1 nama2.

---

KwiNdibano yoCweyo 2, waziswe kwiikhonsepthi zokubala neembonakalo zamanani. Kule indibano yocweyo sizakubona ukuba ezi mbono ziqhubeka njani kwiVeki 6 njengokuba inani 3 lisaziswa. Le ndlela ifanayo iyalandelwa njengoko kwenziwe kumanani 1 no2, angala:

Jonga kumaphepha 102–105 *esiKhokelo semiSebenzi: Ikota 1* ngokwaziswa komsebenzi wenani 3.

Balisa *Ibali lenani 3* uze ulinganise njengokuba uqhubeka nebali neembonakalo ezahlukileyo zenani usebenzisa amakhadi efrizi akw*iKiti yeziXhobo*:

♦ isilwanyana (umfanekiso)

♦ isimboli yenani

♦ inani eliligama

♦ amachokoza (amele iibheli zomnyango).
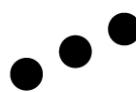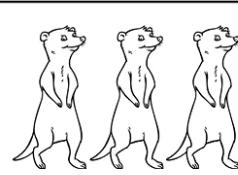


Khangela izinto uze utshatise isimboli yenani (3) kunye nenani eliligama (thathu). KwiVeki 6, abafundi baziswa kumakhadi anamachokoza (athathwe kw*iKiti yeziXhobo*). Abafundi batshatisa izixhobo zokubala namakhadi anamachokoza baze baxoxe ngokuba u3 wenziwe ngechokoza eli1 nama2.

## 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?*

## Amagqabantshintshi ngomxholo weKota 1: Amanani, iiOpareyishini noLwalamano

**Amanqaku ombhexeshi**

♦ Cacisa ukuba okuza kugxilwa kuko kwiVeki 9 ngaManani, iiOpareyishini noLwalamano.

♦ Thumela abathathinxheba kumaphepha 114–123 *esiKhokelo seeKhonsepthi*.

♦ Cela abathathinxaxheba ukuba basebenze ngokwamaqela ukwenza **Umsebenzi 12**. Cela umntu omnye kwiqela ngalinye ozakwebelana ngeembono zeqela elo.

IVeki 7 igxile kwisiThuba neMilo (iJiyometri) ngeli lixa iVeki 8 igxile kuMlinganiselo. Ekugxilwe kuko kwiVeki 9 kwiKota 1 kwakhona iseziikhonsepthi zenani. Kule seshoni, sizakuphanda ngolwalamano phakathi kwamanani.

## 👪 Umsebenzi 12

Jonga kumagqabantshintshi omxholo waManani, iiOpareyishini noLwalamano kumaphepha 114–123 *esiKhokelo seeKhonsepthi*. Kumaqela enu, xoxani ngezi mpawu zilandelayo zamagqabantshintshi omxholo:

1. Yintoni Isihloko 1.4?
2. Zeziphi izihlokwana ezidweliswe phantsi kwesi sihloko?
3. Yintoni umahluko phakathi kwetekisi ezuba nemnyama? Cacisa ukuba kutheni ucinga ngolo hlobo.

## Ukubala

**Amanqaku ombhexeshi**

♦ Cacisa ukuba abafundi beBanga R abazenzi iiopareyishini zenani ezifana nokudibanisa nokuthabatha, uphindaphindo nokwahlula. Nika umzekelo wendlela ezi khonsepthi ezikhuliswa ngayo kancinci ngokubala kunye nokusetyenziswa kwezinto eziphathekayo kwanangokusombulula iingxaki kwiimeko ezifanelekileyo zobomi.

♦ Bonisa ngomsebenzi oquka ukuqhekeza nokwakha amanani (ka-'Hlukuhla uchithe' okumaphepha 166–169 *esiKhokelo semiSebenzi: Ikota 1*).

♦ Emva kokuba ubonisile, abathathinxaxheba benza **Umsebenzi 13**. Cela umntu omnye kwiqela ngalinye ukuba abelane ngezimvo zeqela elo.

♦ Xoxa ngokuba yeyiphi kule mibuzo ibuziweyo evulekileyo nokuba yeyiphi evalekileyo.

♦ Khumbuza abathathinxaxheba ukuba ayingabo bonke abafundi abazakubonisa ukuziqonda ezi ngqikelelo zamanani ngaxeshanye (**umgaqo wenqanaba**).

KwiBanga R abafundi abazenzi iiopareyishini zamanani njengokudibanisa nokuthabatha, uphindaphindo nokwahlula. Ezi khonsepthi ziyakhuliswa kancinci ngokuphanda nangokusombulula iingxaki. Umzekelo: *Ndinama-apile amathathu. Nditya libe linye. Ndishiyeke nama-apile amangaphi?*

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

**Demonstration**

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

### Activity 13

Discuss the demonstration you have just watched.

1.  What number concepts could the learners learn by playing this game?
    _____
    _____

    Combining (adding) and separating (subtraction).

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

    How many counters do I have in this hand? And in this hand? When I put them together how many do I have?
    How did you break up your counters?
    How many do you have on each lid? When you put them together how many do you have?
    If you take the ones on this lid away how many will you have left?

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

Abafundi kufuneka baluqonde ulwalamano phakathi kwamanani. Imisebenzi equka ukuqhekeza nokwakha amanani inceda abafundi baluqonde ulwalamano phakathi kwamanani kunye nexabiso lamanani. Umzekelo: *u5 wenziwe ngo2 no3, ngo1 no4.*

**Umboniso**

Bukelani umboniso womdlalo ka-'hlukuhla uchithe' nize nixoxe ngoko nikuqapheleyo kwiqela lenu.

**Umsebenzi 13**

Xoxa ngomboniso osandula ukuwubukela.

1.  Zeziphi iingqikelelomanani abanokuzifunda abafundi ngokudlala lo mdlalo?
    _____
    _____
    Ukudibanisa (udibaniso) kunye nokwahlukanisa (ukuthabatha).

2.  Yeyiphi imibuzo esetyenziswe ngumbhexeshi ukuqaqambisa udibaniso nokuthabatha?

    _____
    _____
    _____
    _____
    Zingaphi izixhobo zokubala endinazo kwesi sandla? Kwesi sona isandla? Xa ndizibeka ndawonye ndizakuba nezingaphi?
    Uzahlule njani izixhobo zakho zokubala?
    Unezingaphi kwisiciko ngasinye? Xa uzibeka ndawonye uba nezingaphi?
    Ukuba ususa ezi zikwesi siciko uzakushiyeka nezingaphi?

Ayingabo bonke abafundi abazakubonisa ukuziqonda ezi ngqikelelomanani ngaxeshanye (**umgaqo wenqanaba**).

# Session 5: Planning for teaching

**1 hour**

## Term 1 Content Summary (Weeks 6–9)

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

### Activity 14

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

| Questions | Week 6 | Week 7 | Week 8 | Week 9 |
|---|---|---|---|---|
| What is the Content Area Focus for the week? | Patterns, Functions and Algebra | Space and Shape (Geometry) | Measurement | Numbers, Operations and Relationships |
| What are the key concepts that learners will be learning? | Patterns Number 3 Sequencing numbers | 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 |

# Iseshoni 5: Ukulungisela ukufundisa

**1 iyure**

**Amanqaku ombhexeshi**

- ♦ Yalatha abathathinxaxheba kwisiNgeniso A: Ikota 1 Isishwankathelo soMxholo weVeki neVeki (Iiveki 6–9).
- ♦ Funda amacandelo emsebenzi yeklasi yonke, ekhokelwa ngutitshala neyesitishi sokusebenzela.
- ♦ Yithi abathathinxaxheba basebenze kumaqela ukwenza **Umsebenzi 14**.

## Ikota 1 isiShwankathelo somXholo (Iiveki 6–9)

Isingeniso A: Ikota 1 Isishwankathelo soMxholo weVeki neVeki (Iiveki 6–9) sibonisa ngeNkalo yomXholo ekuGxininiswa kuyo engundoqo yeveki, izihloko ekuzakunyathelwa kuzo, ulwazi olutsha noqheliselo ekuzakugxilwa kulo kwiveki nganye, kunye nemisebenzi yeklasi yonke, umsebenzi okhokelwa ngutitshala kunye nomsebenzi weqela wokusebenza ngokuzimeleyo ekucetyiswa ngayo ngeveki.

## Umsebenzi 14

Jonga isiNgeniso A: Ikota 1 Isishwankathelo soMxholo weVeki neVeki (6–9).
Phendula le mibuzo.

| Imibuzo | Iveki 6 | Iveki 7 | Iveki 8 | Iveki 9 |
|---|---|---|---|---|
| Ithini iNkalo yoMxholo ekuGxininiswa kuyo kule veki? | IiPateni, iiFanshini neAljibhra | IsiThuba neMilo (iJiyometri) | Umlinganiselo | Amanani, iiOpareyshini noLwalamano |
| Zithini iikhonsepthi ezingundoqo ezizakufundwa ngabafundi? | Iipateni<br>Inani 3<br>Ulandelelaniso lwamanani | Iimilo ezingu2-D<br>Ukuqondwa komgangatho<br>Indawo<br>Ukubala ngomlomo | Ubude/<br>umphakamo<br>Ixesha | Uqikelelo<br>Phezulu nangaphantsi<br>Indawo<br>Ukusombulula iingxaki |
| Loluphi ulwazi olutsha oluzakwaziswa? | Yalatha iipateni<br>Khuphela iipateni<br>Inani 3<br>Ulandelelaniso lwamanani 1–3 | Oonxantathu abangu2-D<br>Ukuqondwa komgangatho<br>Indawo: phakambi kwe-, kunye nasemva | Ulandelelwaniso lwexesha: imini nobusuku:<br>ukukhanya nobumnyama<br>Ubude: itshathi yobude<br>Indawo: phezu, phantsi kwe-, ngaphezu kwe-, ezantsi, ecaleni kwe-, phakathi<br>Ukubala ubuya umva 5–1 | Uqikelelo<br>Amanani kwiimeko zesiqhelo<br>Enye ngaphezu, enye ngaphantsi<br>Indawo: phezulu/phantsi |
| Zeziphi izakhono ekuqheliswa ngazo? | Ukubala ngomlomo 1–5<br>Ukubala izinto 1–5<br>Ukubethelela iingqikelelo zamanani u1 no2 | Isangqa, isikwere<br>Ukubala izinto 1–5<br>Ukubethelela iikhonsepthi zamanani 1–3<br>Ulandelelaniso lwamanani 1–3<br>Isimetri<br>Nkulu, ncinci | Ukubala ngomlomo 1–10<br>Ukulandelelanisa amanani 1–3<br>Ukubala izinto 1–5<br>Ukugxininisa ku1–3 | Ukubala ngomlomo 1–10<br>Ukubala ubuya umva ukusuka ku5<br>Ulandelelwaniso lwamanani 1–3<br>Ukubala izinto 1–5<br>Ukusombulula iingxaki<br>Amanani engqiqo 1–3<br>Isangqa, isikwere nonxantathu |

## 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.

## IsiKhokelo semiSebenzi: Ikota1: iiVeki 6, 7, 8 no9

Jonga iiVeki 6, 7, 8 no9 kw*isiKhokelo semiSebenzi: Ikota 1*. Yenzani Umsebenzi15 kumaqela enu.

## Umsebenzi 15

Fumana iiVeki 6, 7, 8 no9 *kwisiKhokelo semiSebenzi: Ikota 1*. Phendula imibuzo.
1. Yeyiphi iNkalo yomXholo ekuGxininiswa kuyo kwiveki nganye?
2. Zeziphi izihloko kunye nolwazi olutsha olufundiswayo kwiveki nganye?
3. Umxholo ka'Ziqhelise' unxulumana njani noweveki ephelileyo?
4. Yintoni odinga ukuyilungiselela ngaphambi kokufundisa kwiveki nganye?
5. Funda imisebenzi yeklasi yonke kunye nemisebenzi yamaqela amancinci.
6. Xoxani kumaqela enu amancinci ngendlela ezinakucwangcisa ngayo nize nilungiselele iiklasi zenu kwezi veki zine zokufundisa

Khumbula ukuba uhlolo lweBanga R alukho sikweni kwaye aluqhubeki. Kufuneka siqwalasele abafundi imini yonke, ngaphakathi nangaphandle eklasini. Iliso lisikhumbuza ukuba kufuneka sibaqwalasele abafundi xa bexakekile, kwaye kufuneka siphulaphule ngononophelo xa bethetha nathi okanye bethetha noogxa babo.

INkqubo yeMathematika ihlelwe ngokujikeleza kwamaqela amancinci ebudeni beveki kwaye notitshala unikela ingqalelo ekhethekileyo kwiqela elinye ngosuku, ebukele kwaye emamele njengokuba abafundi besenza imisebenzi ethile. Eli xesha linika utitshala ithuba lokuqwalasela umfundi ngamnye ngokukhethekileyo nokuqokelela ulwazi ngenkqubela yabo.

Jonga kwibhloko ekhuhliweyo ekupheleni komsebenzi okhokelwa ngutitshala: **'Qwalasela ukuba abafundi bayakwazi uku-'**. Utitshala ugcina engqondweni ngomfundi ngamnye baze bathi bakumka abafundi ekupheleni kosuku abhale phantsi oko akuqwalaseleyo kwincwadi elungiselelwe uqwalaselo enendawo yokubhala amanqaku ngomfundi ngamnye.

## Imisebenzi yokuqukumbela

**Amanqaku ombhexeshi**

- ♦ **Izifundo ezifundiweyo:** Cela abathathinxaxheba bacinge malunga noko bakufundileyo kule ndibano yocweyo baze benze **Umsebenzi 16** ngabanye ngabanye.
- ♦ **Umsebenzi ekubuyelwa nawo esikolweni:** Fundisisa lo msebenzi. Buza ukuba ikhona na into engacacanga efuna ukucaciswa banzi.
- ♦ **Uhlolo:** Gqithisa iikopi zeFomu yokuHlolwa kweNdibano yocweyo uze ucele abathathinxaxheba ukuba bayigcwalise.
- ♦ **Indibano yocweyo elandelayo:** Gqithisa imihla yendibano yocweyo elandelayo uze uyivale indibano yocweyo.

**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 ezifundiweyo:** Cinga malunga noko ukufundileyo ngexesha lendibano yocweyo uze ugcwalise le theybhile.

| Izinto esele ndizenza ezisebenza kakuhle | Iimbono ezintsha endingathanda ukuzizama |
| --- | --- |
| | |

### Umsebenzi ekubuyelwa nawo esikolweni

1. Funda amaphepha e*siKhokelo seeKhonsepthi* ekwalathwe kuwo ngexesha lendibano yocweyo.
2. Sebenzisa *isiKhokelo semiSebenzi: Ikota 1* ukulungiselela nokuphumeza iNkqubo yeMathematika yeeVeki 6–9, kuquka ukwenza indawo yemathematika egxile kwikhonsepthi yeveki nganye.
3. Bhala uhlolo ngoko kusebenze kakuhle kwanokuba zintoni ezingasebenzanga kakuhle. Yiza nesicwangciso nohlolo lwakho kwindibano yocweyo elandelayo.
4. Yiza nemizekelo okanye iifoto zemisebenzi eyenziwe ngabafundi.

**Uhlolo**

Gcwalisa iFomu yoHlolo.

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

## Term 1: Activity Plan

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

## ISINGENISO A: IKOTA 1 ISISHWANKATHELO SOMXHOKO WEVEKI NEVEKI (IIVEKI 6–9)

### Ikota 1: Isicwangciso semiSebenzi

| Iveki 6 | | | | |
| --- | --- | --- | --- | --- |
| **INKALO YOMXHOLO:** IIPATENi, IIFANSHINI neALJIBHRA | | | | |
| **ISIHLOKO: Iipateni zejiyometri** | | | | |
| **YAZISA ULWAZI OLUTSHA:** Yalatha iipateni, khuphela ipateni, gqibezela ipateni, yazisa inani 3, landelelanisa amanani 1–3. Ukwenza amaqela afane. | | | | |
| **ZIQHELISE:** Ukubala ngomlomo, ukubala izinto 1-5, ingqikelelo yamanani u1 no2, isangqa, isikwere, khulu no-ncinci, phambili no-mva | | | | |
| **Imisebenzi yeklasi yonke** | | **Umsebenzi okhokelwa ngutitshala** | **Imisebenzi yesitishi sokusebenzela** | |
| **Usuku 1** | Yazisa ibali lefrizi yenani elingu3. | Dlala umdlalo wentshukumo usebenzisa iisimboli u1 no2. | **Umsebenzi 1** | Freyima umfanekiso usebenzisa ipateni uze uzobe izinto ezintathu. |
| **Usuku 2** | Sebenzisa izangqa ezahlukileyo ngobukhulu nangemibala ukwenza ipateni elula. Xoxa ngeepateni (uphindaphindo, umahluko, ukufana). | Tshatisa uze ulandelelanise umfanekiso wamakhadi amachokoza/amanani 1–3. | **Umsebenzi 2** **Umsebenzi 3** | Ukubala ngophawu lweminwe. Amakhadi eepateni usebenzisa izixhobo zokubala kunye |
| **Usuku 3** | Iipateni zokubetha umzimba nokusombulula iingxaki. | Ipateni elula usebenzisa izixhobo zokubala. Xoxa ngepateni, sebenzisa izixhobo zokubala ukukhuphela ipateni. | **Umsebenzi 4** | namakhuni. Ithempleyithi ngentlama yokudlala – wenze u3. |
| **Usuku 4** | Sebenzisa izangqa ezincinci nezinkulu kunye nezinto ukwenza iipateni ezilula. Yalatha iipateni eklasini. | Ukusombulula iingxaki 1–3. Ukwenza amaqela afane. | | |
| **Usuku 5** | Ukusombulula iingxaki 1–3. Ukwenza amaqela afane. | | | |
| Iveki 7 | | | | |
| **INKALO YOMXHOLO:** ISITHUBA neMILO (IJIYOMETRI) | | | | |
| **ISIHLOKO: Nakana, yalatha ubize amagama eemilo ezingu2-D: unxantathu; chaza uthelekise izinto ezingu3-D neemilo ezingu2-D; ukuqondwa komgangatho; isimetri** | | | | |
| **YAZISA ULWAZI OLUTSHA:** Unxantathu; ukuqondwa komgangatho, indawo (ngaphambili no-ngasemva); ukubala ngomlomo 1–10 | | | | |
| **ZIQHELISE:** Ukubala ngomlomo 1–10, ukulandelelanisa amanani 1–3, ukubala izinto 1–5, ukubethelela ingqikelelo yamanani 1–3, leliphi inani eliphambi/elisemva, isangqa, isikwere, ulinganomacala, khulu no-ncinci | | | | |
| **Imisebenzi yeklasi yonke** | | **Umsebenzi okhokelwa ngutitshala** | **Imisebenzi yesitishi sokusebenzela** | |
| **Usuku 1** | Yazisa unxantathu neempawu zakhe. | Ukubala ngomlomo. | **Umsebenzi 1** | Umsebenzi kanxantathu – sika uze uhombise oonxantathu abane. |
| **Usuku 2** | Yalatha imilo kanxantathu kwi*Ncwadi yeePowusta*, ukusombulula iingxaki. | Ukuchukumisa nokubala usebenzisa iithawa zamanani 1–3 (iibhloko ze*Unifix*). | **Umsebenzi 2** | Imizobo yamabhabhathane – isimetri. |
| **Usuku 3** | Ngaphambi kwe- kunye no-ngasemva; ukunqumla embindini. | Ukuhambelana kwenye nenye. Iimpawu zikanxantathu (2-D). | **Umsebenzi 3** **Umsebenzi 4** | Imilo yomntu – sebenzisa iimilo ezisele zisikiwe. Iiphazili zemilo – (amaqhekeza amathandathu |
| **Usuku 4** | Thelekisa eyona inkulu neyona incinci. Eyona inkulu kunye incinci. | Hlela uze uthelekise izinto ezingu3-D neemilo ezingu2-D zibe ngamaqela amabini, elinye loonxantathu nelinye elingengonxantathu. | | ubuncinane). |
| **Usuku 5** | Isimetri | | | |

| Week 8 | | |
|---|---|---|
| **CONTENT AREA:** MEASUREMENT | | |
| **TOPIC: Time: day and night; Length: compare and order objects to describe height** | | |
| **INTRODUCE NEW KNOWLEDGE:** Sequencing day and night, light and dark; height chart; position (on, under, on top, below, next to, between); counting backwards 5–1 | | |
| **PRACTISE:** Oral counting 1–10, counting backwards from 5, sequencing numbers 1–3, counting objects 1–5, reinforce number concept 1–3, patterns | | |
| **Whole class activities** | **Teacher-guided activity** | **Workstation activities** |

| | Whole class activities | Teacher-guided activity | | Workstation activities |
|---|---|---|---|---|
| **Day 1** | Day and night; light and dark. | Routine introduction. | **Activity 1** | Day and night activity – cutting out pictures. |
| **Day 2** | Introduce height chart; position vocabulary. | Day and night; dark and light activities: | **Activity 2** | Draw from shortest to tallest. |
| **Day 3** | Height chart. Sorting day and night everyday objects. | -     blanket<br>-     activity cards. | **Activity 3**<br>**Activity 4** | Paste shapes from biggest to smallest.<br>Day/night matching cards. |
| **Day 4** | Poster – Day and night. Positional vocabulary: on, under, below and on top. | Day and night story and sequencing.<br>Position (on, under, below, on top, next to, between). | | |
| **Day 5** | Compare heights.<br>Movement-positions. | Pattern (animals).<br>Height chart. | | |

| Week 9 | | |
|---|---|---|
| **CONTENT AREA:** NUMBERS, OPERATIONS and RELATIONSHIPS | | |
| **TOPIC: Describe, order and compare numbers; estimation; problem-solving techniques; using numbers in familiar contexts; position** | | |
| **INTRODUCE NEW KNOWLEDGE:** Estimation, numbers in familiar contexts, one more, one less, position (up/down) | | |
| **PRACTISE:** Oral counting 1–10, counting backwards from 5, sequencing numbers 1–3, counting objects 1–5, number concept 1–3, problem-solving techniques. Circle, square and triangle. | | |

| | Whole class activities | Teacher-guided activity | | Workstation activities |
|---|---|---|---|---|
| **Day 1** | Describe and order numbers 1–3. | Oral counting. | **Activity 1** | Playdough making 1–3 objects. |
| **Day 2** | Matching number representations 1–3.<br>Estimation. | One-to-one correspondence.<br>Describe and order numbers 1–3. | **Activity 2** | Draw pictures 1–3 in shapes. |
| **Day 3** | Counting – one more/one less.<br>Position: up and down. | Estimation.<br>Shake and break. | **Activity 3**<br>**Activity 4** | Pasting. Picture with three stars, two trees, one moon.<br>Puzzles (minimum six piece). |
| **Day 4** | Problem solving (more/less). Poster 1. | | | |
| **Day 5** | Using number in familiar context: How old are you? | | | |

| Iveki 8 | | |
|---|---|---|
| **INKALO YOMXHOLO:** UMLINGANISELO | | |
| **ISIHLOKO: Ixesha: imini nobusuku; Ubude: thelekisa uze uhlele izinto ukuchaza umphakamo** | | |
| **YAZISA ULWAZI OLUTSHA:** Ukulandelelanisa imini nobusuku, ukukhanya nobumnyama; itshati yobude (umphakamo); indawo (phezu, phantsi, ngaphezu kwe-, ngezantsi, ecaleni kwe-, phakathi); ukubala ubuyela umva 5–1 | | |
| **ZIQHELISE:** Ukubala ngomlomo 1–10, ukubala ubuyela umva usuka ku5, ukulandelelanisa amanani 1–3, ukubala izinto 1–5, ukubethelela kwingikelelo yamanani 1–3, iipateni | | |
| **Imisebenzi yeklasi yonke** | **Umsebenzi okhokelwa ngutitshala** | **Imisebenzi yesitishi sokusebenzela** |
| **Usuku 1** | Imini nobusuku; ukukhanya nobumnyama. | Ukwaziswa kwesiqhelo. | **Umsebenzi 1** | Umsebenzi wemini nobusuku – ukusika imifanekiso. |
| **Usuku 2** | Yazisa itshati yobude; isigama sendawo. | Imini nobusuku; imisebenzi yobumnyama nokukhanya: | **Umsebenzi 2** | Zoba ukusuka koyena umfutshane ukuya koyena mde. |
| **Usuku 3** | Itshati yobude. Ukuhlela imini nobusuku ngezinto zemihla ngemihla. | - ingubo | **Umsebenzi 3** | Ncamathisela iimilo ukusuka kweyona inkulu ukuya kweyona incinci. |
| **Usuku 4** | Ipowusta – imini nobusuku. Isigama sendawo; phezu, phantsi, ngaphantsi, ngaphezu kwe-. | - amakhadi omsebenzi.<br>Ibali lemini nobusuku kunye nolandelelwano.<br>Indawo (phezu, phantsi, ngaphantsi, | **Umsebenzi 4** | Amakhadi okutshatisa imini/ubusuku. |
| **Usuku 5** | Thelekisa imiphakamo.<br>Iindawo zeentshukumo. | ngaphezulu, ecaleni kwe-, phakathi).<br>Ipateni (izilwanyana).<br>Itshathi yobude. | | |
| Iveki 9 | | |
| **INKALO YOMXHOLO:** AMANANI, IIOPAREYSHINI noLWALAMANO | | |
| **ISIHLOKO: Ukuchaza, ukulandelelanisa nokuthelekisa amanani; ukuqikelela; amacebo okusombulula iingxaki; ukusebenzisa amanani kwimixholo eqhelekileyo; indawo** | | |
| **YAZISA ULWAZI OLUTSHA:** Uqikelelo, amanani kwimixholo yesiqhelo, enye ngaphezulu, enye ngaphantsi, indawo (phezulu/ezantsi) | | |
| **ZIQHELISE:** Ukubala ngmlomo 1–10, ukubala ubuyela umva ukusuka ku5, ukulandelelanisa amanani 1–3, ukubala izinto 1–5, ingqikelelo yamanani 1–3, amacebo okusombulula iingxaki. Isangqa, isikwere nonxantathu. | | |
| **Imisebenzi yeklasi yonke** | **Umsebenzi okhokelwa ngutitshala** | **Imisebenzi yesitishi sokusebenzela** |
| **Usuku 1** | Chaza uze ulandelelanise amanani 1–3. | Ukubala ngomlomo. | **Umsebenzi 1** | Ukwenza izinto 1–3 ngentlama yokudlala. |
| **Usuku 2** | Tshatisa ukumelwa kwamanani 1–3.<br>Uqikelelo. | Ukuhambelana kwenye nenye<br>Chaza uze ulandelelanise amanani 1–3.<br>Uqikelelo. | **Umsebenzi 2** | Zoba imifanekiso 1–3 ngeemilo. |
| **Usuku 3** | Ukubala – enye ngaphezulu/enye ngaphantsi.<br>Indawo: phezulu nase-zantsi. | Hlukuhla uze uchithe. | **Umsebenzi 3** | Ukuncamathisela. Umfanekiso oneenkwenkwezi ezintathu, imithi emibini, inyanga enye. |
| **Usuku 4** | Ukusombulula iingxaki (ngephezu/ngezantsi). IPowusta 1. | | **Umsebenzi 4** | Iiphazili (amaqhezu amathandathu ubuncinane). |
| **Usuku 5** | Ukusebenzisa inani kumxholo oqhelekileyo: Uneminyaka emingaphi? | | | |

# Workshop 3 Evaluation Form

1.  Did the workshop meet your expectations?

_____
_____
_____
_____

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

_____
_____
_____
_____

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

_____
_____
_____
_____

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

_____
_____
_____
_____

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

_____
_____
_____
_____

# IFomu yokuHlola yeNdibano yoCweyo 3

1.   Ingaba indibano yocweyo ifikelele koko ubukulindele?

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   _____
   _____
   _____

2.   Ufunde ntoni kule ndibano yocweyo ekuncede kakhulu?

   _____
   _____
   _____
   _____

3.   Ingaba ikhona into ongakhange uyithande okanye obenobunzima bokuyiqonda?

   _____
   _____
   _____
   _____

4.   Uzakukusebenzisa njani oko ukufundileyo apha kwiklasi yakho yeBanga R?

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   _____
   _____
   _____

5.   Ingaba unazo iingcebiso zokuphucula nangakumbi iindibano zocweyo?

   _____
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   _____