



**GAUTENG PROVINCE**  
EDUCATION  
REPUBLIC OF SOUTH AFRICA

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IsiXhosa/English

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



**INdibano yoCweyo 2 • Workshop 2  
IsiKhokelo somBhexeshi • 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**.

The development and production of the training and classroom resources for the Grade R Mathematics and Language Improvement Project were made possible by generous project funding from the **United States Agency for International Development** and the **Zenex Foundation**.

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.

## ACKNOWLEDGEMENTS

Special thanks to:

- The Gauteng Department of Education Curriculum, Teacher Education and Special Education Directorate officials for their contribution to the adaptation of our materials.
- The Western Cape Education Department (WCED) officials and teachers for their contribution to the successful implementation of the Grade R Mathematics Programme (R-Maths) in the Western Cape between 2016 and 2019.
- The R-Maths writing team: SDU staff and consultants.



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IProjekthi yeBanga R yokuPhucula yeMathematika noLwimi lilinge **leSebe leMfundo laseGauteng (Gauteng Department of Education)** kunye neqabane layo eliphambili, i**Gauteng Education Development Trust**.

Ukwenziwa nokuveliswa kwezixhobo zoqeqesho nezegumbi lokufundela kwenziwe kwayimpumelelo ngezibele zenkxasomali ye**United States Agency for International Development** kwakunye ne**Zenex Foundation**.

IProjekthi yeBanga R yokuPhucula yeMathematika noLwimi ilawulwa yi**JET Education Services** ne**Schools Development Unit** yase**UCT** kunye no**Wordworks** njengamaqabane ezobugcisa.

**Schools Development Unit (SDU)** kwi**Yunivesithi yaseKapa (UCT)** liqabane lezobugcisa kwimathematika kwiProjekthi yeBanga R yokuPhucula yeMathematika noLwimi. ISDU yiyunithi ngaphakathi kwiSchool of Education kwiYunivesithi yaseKapa egxile kuphuhliso lobungcali bootitshala kwiMathematika, izifundo zeNzululwazi, iLitherasi/uLwimi kunye neZakhono zoBomi ukusuka kwiBanga R ukuya kwiBanga le-12. ISDU inikezela ngezinqinisekiso zootitshala kunye nezifundo ezifutshane ezivunyiweyo zeUCT, umsebenzi osekwe esikolweni, uphuhliso lweemathiriyeli kunye nophando lokuxhasa ukufundisa nokufunda kuzo zonke iimeko eMzantsi Afrika.

### IMIBULELO

Senza umbulelo ongazenzisiyo:

- KwiCandelo leKharithyulam kwiSebe leMfundo laseGauteng, Izifundo zooTitshala kunye namagosa eCandelo elikhethekileyo leMfundo ngenkxaso yabo ekuvelisweni kwale mathiriyeli.
- Kumagosa eSebe leMfundo laseNtshona Koloni (WCED) kunye nootitshala ngegalelo labo kwimpumelelo yokuphunyezwa kweGrade R Mathematics Programme (R-Maths) eNtshona Koloni phakathi kweminyaka ka2016 no2019.
- Iqela lababhali beR-Maths: Abasebenzi kwiSDU.
- 



INkqubo yeMathematika yokuPhucula yeBanga R ilungiselelwe kwi**R-Maths**, yapapashwa okokuqala ngowama2017 yiSchools Development Unit, kwiYunivesithi yaseKapa. Ilungelo loshicilelo leR-Maths ligcinwe yiYunivesithi yaseKapa.

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# Overview

## Purpose

This is the second 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. The focus of this workshop is Space and Shape (Geometry). Participants will strengthen their knowledge and understanding of teaching and learning in this Content Area, prepare for teaching Space and Shape (Geometry) activities in their classrooms and reflect on the guiding principles that inform teaching.

## Learning outcomes

- ◆ To reflect on the implementation of Term 1 Weeks 1–2
- ◆ To explore strategies to support teaching maths in Grade R (e.g. problem solving, investigation, exploration, questioning, critical thinking, active listening, observation)
- ◆ To engage with the Maths Programme content of Term 1 Weeks 3–5 (Space and Shape (Geometry))
- ◆ To apply the Maths Programme principles in weekly planning

## Workshop content

- ◆ Opening and reflection (1 hour)
- ◆ Session 1: Content overview (1 hour)
- TEA
- ◆ Session 2: Space and Shape (Geometry) (2 hours)
- LUNCH
- ◆ Session 3: Planning for teaching (2 hours)

## Preparation

- ◆ PPT welcome and outcomes
- ◆ Copy and cut out the Appendix B strips and place them into one envelope per group.
- ◆ Set up a simple obstacle course in an open space.
- ◆ Prepare the tables with materials before each session.

# Amagqabantshintshi

## Injongo

Le yeyesibini 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. Le ndibano yocweyo igxile kwisiThuba neMilo (iJiyometri). Abathathinxaxheba bazakomeleza ulwazi nengqiqo yabo yokufundisa nokufunda kule Nkalo yomXholo, balungiselele ukufundisa ngemisebenzi yesiThuba neMilo (iJiyometri) eziklasini zabo baze baqwalasele imigaqo ekhokelayo eyazisa ukufundisa.

## Iziphumo zokufunda

- ◆ Ukuthetha ngokuphunyezwa kweKota 1 iiVeki 1–2
- ◆ Ukuqwalasela amacebo okunika inkxaso ekufundisweni kwemathematika kwiBanga R (umz. ukusombulula iingxaki, ukuphanda, uphononongo, ukubuza, ukucinga nzulu, ukuphulaphula ngobunono, ukuqwalasela)
- ◆ Ukujongana nomxholo weNkqubo yeMathematika weKota 1 iiVeki 3–5 (IsiThuba neMilo (iJiyometri))
- ◆ Ukusebenzisa imigaqo yeNkqubo yeMathematika kucwangciso lweveki

## Umxholo wendibano yocweyo

- ◆ Ukuvula nocamngco (1 iyure)
- ◆ Iseshoni 1: Amagqabantshintshi ngomxholo (1 iyure)  
ITI
- ◆ Iseshoni 2: IsiThuba neMilo (iJiyometri) (2 iiyure)
- ◆ ISIDLO SASEMINI
- ◆ Iseshoni 3: Ukucwangcisela ukufundisa (2 iiyure)

## Ulungiselelo

- ◆ PPT ulwamkelo neziphumo (ekujoliswe kuzo)
- ◆ Khuphela uze usike imicu yeSingeniso B ize ifakwe emvulophini enye yeqela ngalinye.
- ◆ Yenza umzila wemiqobo olula kwindawo evulekileyo.
- ◆ Lungisa iitafle ngokubeka iimathiriyeli ngaphambi kweseshoni nganye.

## Materials

- ◆ Flipchart paper, kokis
- ◆ Props for obstacle course
- ◆ *Concept Guide*
- ◆ *Poster Book*
- ◆ *Activity Guide: Term 1*
- ◆ Boxes, balls and ramps for each table
- ◆ Large sheet of newsprint (for tracing around a person)
- ◆ Newsprint and crayons for each table
- ◆ Attribute blocks for each table



## **Iimathiriyeli**

- ◆ Iphepha lefliptshathi, iikhoki
- ◆ Iiprophu zomzila wemiqobo
- ◆ *IsiKhokelo seeKhonsepthe*
- ◆ *INcwadi yeePowusta*
- ◆ *IsiKhokelo semiSebenzi: Ikota 1*
- ◆ Iibhokisi, iibhola kunye nerempu kwitafle nganye
- ◆ Uxwebhu olukhulu leendaba (elizakusetyenziselwa ukutreyisa umntu)
- ◆ Iphephandaba neekhrayoni kwitafle nganye
- ◆ Iibhloko zeathribhyuthi kwitafle nganye

# Opening and reflection

1 hour

## Facilitator's notes

- ◆ PPT: Open the session, welcome participants and read through the outcomes for the workshop.
- ◆ Remind participants of the *Take back to school* task from the end of Workshop 1. Ask participants to work in groups to reflect on this task and to complete **Activity 1**.
- ◆ Groups share key points with the large group.
- ◆ List examples of good practice on newsprint and encourage participants to write these down or take a photograph of the newsprint as a record.
- ◆ On the ground, place a piece of string the length of the classroom. Mark one end of the string: 1 = the Maths Programme has made a big difference to my teaching. Mark the other end of the string: 10 = the Maths Programme has made no difference to my teaching.
- ◆ Invite a few participants at a time to stand on the string indicating where they fit on the scale and to explain why they chose to stand there.

In your Workshop 1 *Take back to school* task you were asked to complete several activities. We would like you to spend a few minutes reflecting on your progress so far.

In your groups, think about your maths teaching over the past two weeks and how successfully you have implemented Term 1 Weeks 1–2.



### Activity 1

In your group, discuss your successes and challenges with implementing Term 1 Weeks 1–2 of the Maths Programme. Allow each person to have a turn to present their reflections.

1. Briefly describe how you organised your classroom and how you prepared for teaching these two weeks.

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2. Discuss what worked well and what you found difficult to implement. Does anyone have any helpful suggestions?

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## Amanqaku ombhexeshi

- ◆ PPT: Vula iseshoni, yamkela abathathinxaxheba uze ubafundele iziphumo kwindibano yocweyo.
- ◆ Khumbuza abathathinxaxheba ngo*Msebenzi ekubuyelwa nawo esikolweni* wasekupheleni kweNdibano yoCweyo 1. Cela abathathinxaxheba ukuba basebenze ngokwamaqela baqwalasele lo msebenzi baze bagqibezele **Umsebenzi 1**.
- ◆ Amaqela abelana ngamanqaku angundoqo neqela elikhulu.
- ◆ Dwelisa imizekelo yeendlela ezincomekayo zokusebenza ngamaphephandaba uze ukhuthaze abathathinxaxheba ukuba bakubhale phantsi oku okanye bathathe ifoto yephephandaba njengobungqina.
- ◆ Phantsi, beka umcu womsonto obude bungobegumbi lokufundela. Phawula incam esekugqibeleni yomsonto uthi:  $1 = iNkqubo yeMathematika$  yenza omkhulu umahluko kwindlela endifundisa ngayo. Phawula enye incam esekupheleni yomsonto uthi:  $10 = iNkqubo yeMathematika$  ayenzanga mahluko kwindlela endifundisa ngayo.
- ◆ Mema abathathinxaxheba abambalwa ngexesha ukuba beme phezu komsonto ubonisa apho bawela khona esikalini baze bacacise ukuba kutheni bekhethe ukuma apho.

Ku*Msebenzi ekubuyelwa nawo esikolweni* weNdibano yoCweyo 1 ubuceliwe ukuba wenze imisebenzi eliqela. Ingaba ungakwazi ukuthatha imizuzu embalwa nje uqwalasele inkqubela osele uyenzile.

Kumaqela enu, cingani ngokufundisa kwenu imathematika kwezi veki zimbini zidlulileyo kwanokuba kube yimpumelelo njani na ukufundisa iKota 1 iiVeki 1-2.



### Umsebenzi 1

Kumaqela enu, xoxani ngempumelelo yenu kwanemingeni enibenayo kwiKota 1 iiVeki 1-2 yeNkqubo yeMathematika. Nikanani amathuba ukuze umntu ngamnye akwazi ukunikela ngolwakhe ucamngco.

1. Chaza ngokufutshane ngendlela olihlele ngalo igumbi lakho lokufundela kwanokuba ukulungiselele njani na ukufundisa kwezi veki zimbini.

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2. Xoxa ngoko kusebenze kakuhle kwanoko uye wakufumana kunzima ukukuphumeza. Ingaba ukhona oneengcebiso ezinokunceda?

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3. Share how and when you applied the guiding principles of teaching in your daily programme Mathematics focus time?

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### Facilitator's notes

- ◆ Wrap up this session with feedback from each group. Refer to specific activities in *Activity Guide: Term 1* to support what participants share.
- ◆ Discuss the video with a focus on how participants managed the teacher-guided activity in Week 2.



### Video 1

*Activity Guide: Term 1, Week 2, Teacher-guided activity #3 (page 46)*

Watch the video of the teacher-guided activity which involves a small group of learners.

What do you think the intention of the activity is? Pay special attention to how the teacher prompts the learners with questions and how she observes each learner.

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In Workshop 1 we discussed the eight guiding principles of teaching maths in Grade R. Activity 2 requires that you to match each of the eight principles with two statements that best describe it.

### Facilitator's notes

- ◆ Hand out one envelope containing the eight guiding principles of teaching and matching statements to each group.
- ◆ Explain that the participants need to match the principles with the statements to complete **Activity 2**.



### Activity 2

1. Each group has been given an envelope containing a number of strips. Find the eight guiding principles of teaching and place them in a row on your table.
2. Discuss each of the statements and decide with which principle it fits best. Place the statement under this principle.

3. Yabelana nabanye malunga nendlela kwanexesha oyewayisebenzisa ngalo imigaqo ekhokelayo yokufundisa kwinkqubo yemihla ngemihla yexesha lokugxila kwiMathematika?

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### Amanqaku ombhexeshi

- ◆ Qukumbela iseshoni ngokufumana izimvo zeqela ngalinye. Thetha ngemisebenzi ethile ekwisi*Khokelo semiSebenzi: Ikota* ukunika inkxaso koko abathathinxaxheba babelene ngako.
- ◆ Xoxa ngevidiyo ugxile kwindlela abathathinxaxheba abakwaze ngayo ukwenza umsebenzi okhokelwa ngutitshala kwiVeki 2.



### Ividiyo 1

*IsiKhokelo semiSebenzi: Ikota 1, iVeki 2, Umsebenzi okhokelwa ngutitshala #3 (iphepha 47)*

Bukela ividiyo yomsebenzi okhokelwa ngutitshala obandakanya iqela elincinci labafundi.

Ucinga ukuba yintoni injongo yalo msebenzi? Nika ingqalelo kwindlela utitshala akhokela ngayo abafundi ngokubuza imibuzo kwanendlela ambona ngayo umfundi ngamnye.

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KwiNdibano yoCweyo 1 sixoxe ngemigaqo ekhokelayo esibhozo yokufundisa imathematika kwiBanga R. Umsebenzi 2 udinga ukuba utshatise eminye yale migaqo isibhozo neengxelo ezimbini eziyichaza ngcono.

### Amanqaku ombhexeshi

- ◆ Gqithisa imvulophu enye equlethe imigaqo ekhokelayo esibhozo yokufundisa uze utshatise ingxelo nganye neqela ngalinye.
- ◆ Cacisa ukuba abathathinxaxheba kufuneka batshatise imigaqo neengxelo ekwenzeni **Umsebenzi 2**.



### Umsebenzi 2

1. Iqela ngalinye linikwe imvulophu equlethe iqela lemicu. Fumana imigaqo ekhokelayo yokufundisa esibhozo uze uyibeke kwindawo emxinwa etafileni yakho.
2. Xoxa ngengxelo nganye uze uthathe isigqibo sokuba ihambelana nawuphi na umgaqo. Beka ingxelo phantsi kwalo mgaqo.

# Session 1: Content overview

1 hour

## Facilitator's notes

- ◆ Refer participants to pages 126–131 of the *Concept Guide*. Remind participants that this table provides the framework for all maths planning and will be used and referenced throughout the training.
- ◆ Ask participants to work in groups to complete **Activity 3**. Ask one person from each group to share their ideas.

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

The content for teaching and learning in Weeks 3–5 focuses mainly on the CAPS Content Area, Space and Shape (Geometry). This content involves more than teaching learners to identify geometric shapes. Their understanding of space and shape depends to a large extent on whether they understand and can use position vocabulary to describe the location of an object (e.g. on, in, next to, behind, in front of). Learners also need to be able to see objects from different positions or views (e.g. from the top, from the bottom, turned sideways, flipped upside down).

## Facilitator's notes

- ◆ Ask the participants: If I say 'space and shape' what words come to mind?
- ◆ List the words that they share on flipchart paper.

Read the content overview for Space and Shape (Geometry) on pages 126–131 of the *Concept Guide*. It provides an overview of the Maths Programme content to be taught in each term of Grade R.

- ◆ The text in blue is the content from the Grade R CAPS for Mathematics.
- ◆ The text descriptions and content in black have been added to extend and build on CAPS.
- ◆ The topics are sequenced to show a developmental progression from one topic to another.



### Activity 3

Look at 3.1–3.4 of the content overview for Space and Shape (Geometry) on pages 126–131 of the *Concept Guide*. In your group, do the following:

# Ishoni 1: Amagqabantshintshi ngomxholo 1 iyure

## Amanqaku ombhexeshi

- ◆ Thumela abathathinxaxheba kumaphepha 126–131 *esiKhokelo seeKhonsepthi*. Khumbuza abathathinxaxheba ukuba le theybhile ibonelela ngesikhokelo salo lonke ucwangciso lwemathematika kwaye izakusetyenziswa kuze kubhekiselwe kuyo kuqeqesho lonke.
- ◆ Cela abathathinxaxheba ukuba basebenze ngokwamaqela ekwenzeni **Umsebenzi 3**. Cela umntu omnye kwiqela ngalinye ukuba abelane ngezimvo zeqela elo.

## Amagqabantshintshi ngomxholo weKota 1: IsiThuba neMilo (iJiyometri)

Umxholo wokufundisa nokufunda kwiiVeki 3–5 ugxile ikakhulu kwiNkalo yoMxholo kaCAPS, isiThuba neMilo (iJiyometri). Lo mxholo ubandakanya ngaphezu kokufundisa abafundi ukuba bakwazi ukwalatha iimilo zejiyometri. Ingqiqo yabo yesithuba nemilo ixhomekeke ikakhulu ekubeni bayaqonda kusini na kwanokuba bayakwazi na ukusebenzisa isigama sendawo ukuchaza indawo ekuyo into leyo (umz. ngaphezu, ngaphakathi, ecaleni kwe-, ngasemva, ngaphambi kwe-). Abafundi badinga ukwazi ukubona izinto ngokweendawo okanye iimbonakalo ezahlukeyo (umz. ukusuka phezulu, ukusuka ngasezantsi, xa ize ngecala, xa iguquliwe yajonga ezantsi).

## Amanqaku ombhexeshi

- ◆ Buza abathathinxaxheba: Ukuba ndithi 'isithuba nemilo' ngawaphi amagama afika engqondweni?
- ◆ Dwelisa amagama abathi bawabize kwiphepha lefliptshathi.

Funda amagqabantshintshi ngomxholo wesiThuba neMilo (iJiyometri) akumaphepha 126–131 *esiKhokelo seeKhonsepthi*. Abonelela ngamagqabantshintshi omxholo weNkqubo yeMathematika ozakufundiswa kwikota nganye yeBanga R.

- ◆ Umbhalo ozuba ngomxholo uthathwe ngqo kuCAPS weMathematika yeBanga R.
- ◆ Umbhalo oyinkcazelo nomxholo obhalwe mnyama wongeziwe ukuze wandise kwaye wakhele phezu kukaCAPS.
- ◆ Ezi zihloko zilandelelanisiwe ukubonisa ukukhula okuqhubekekayo ukusuka kwisihloko ukuya kwesinye.



### Umsebenzi 3

Jonga ku3.1–3.4 wamagqabantshintshi ngomxholo wesiThuba neMilo (iJiyometri) kumaphepha 126–131 *esiKhokelo seeKhonsepthi*. Kumaqela enu, yenzani oku kulandelayo:

1. Look at each topic and discuss the content and developmental progression across the four terms.

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2. Look at the text in black and discuss what the Maths Programme adds to the content from CAPS.

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Refer to the black text. Main additions to CAPS are:

- position of child in relation to their surroundings
- exploring 3-D objects: flat, round, square or rectangular shape
- rectangle (referred to incidentally in Term 1 and taught in Term 3)
- recognise, identify and name 2-D shapes
- comparing rectangles and squares
- curved and straight lines.

3. Why do you think that the weighting of Space and Shape (Geometry) is the second highest of the Content Areas in Grade R?

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Understanding more about their world – everything around us has a shape. Learning the correct language enables learners to talk about and describe shapes.

Many of the terms also apply to understanding the position of number in the counting sequence or the sequence of items in a pattern. Many life skills depend on spatial awareness and skills, e.g. following directions or reading a map, packing things into a container, etc.

4. How have you approached teaching Space and Shape (Geometry) in your classroom? Give examples of lessons and activities that you have used in the past.

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1. Jongani kwisihloko ngasinye nize nixoxe ngomxholo kunye nenkqubela ekhulayo kuzo zone iikota.

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2. Jongani umbhalo omnyama nize nixoxe ngoko kongezwa yiNkqubo yeMathematika kumxholo kaCAPS.

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Jongani kumbhalo omnyama. Izinto ezingundoqo ezongezweyo kuCAPS zezi:

- indawo akuyo umntwana ngokoyanyaniswa noko kumngqongileyo
- ukuphonononga izinto ezingu3-D: imilo esicaba, engqukuva, esikwere okanye eluxande
- uxande (ekubhekiswa ngebhaqo kuyo kwiKota 1 ize ifundiswe kwiKota 3)
- ukunakana, ukwalatha kwanokubiza amagama eemilo ezingu2-D
- ukuthelekisa iingxande nezikwere
- imigca egobileyo nengqalileyo.

3. Kutheni ucinga ukuba umthamo wesiThuba neMilo (iJiyometri) ngowesibini ngobukhulu kwiNkalo yoMxholo yeBanga R?

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Ukuqonda banzi ngelizwe labo – yonke into esingqongileyo inemilo. Ukufunda ngesigama esifanelekileyo kunceda abafundi bakwazi ukuthetha ngeemilo baze bazichaze iimilo.

Ubuninzi bamagama akwasebenza ekuqondeni indawo yenani kulandelelwano lokubala okanye ulandelelwano lwezinto kwipatheni. Ubuninzi bezakhono zobomi buxhomekeke ekuqondeni isithuba kunye nezakhono zesithuba, umz. ukulandela ulwalathiso lwendlela okanye ukufunda imephu, ukupaka izinto kwisikhongozeli, njlnjl.

4. Ukuvele ngayiphi indlela ukufundisa IsiThuba neMilo (iJiyometri) eklasini yakho? Nika imizekelo yezifundo nemisebenzi oyisebenzisileyo kwixa elidlulileyo.

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## Session 2: Space and Shape (Geometry)

2 hours

### Spatial concepts

(30 minutes)

Learners start to learn about spatial concepts such as position, direction, orientation (different views) and perspective as they use their own bodies to explore the relationship between themselves, other people and objects.

#### Facilitator's notes

- ◆ Set up an obstacle course using chairs, hula hoops, planks, tables and a box.
- ◆ Examples of instructions to use:
  - Take two steps forward.
  - Jump into the hula hoop.
  - Jump out of the hula hoop.
  - Stand with one leg in the hula hoop.
  - Crawl forwards through the legs of the table.
  - Stand up and turn around.
  - Take three steps backwards.
  - Put one leg inside the hula hoop.
  - Jump over the box.
  - Walk between the chairs.
  - Stand in the box.



#### Activity 4

The facilitator has set up a simple obstacle course. With a partner take turns to guide each other through the obstacle course. Use positional and directional language to give clear instructions.

#### Using the *Poster Book* to talk about position and direction

##### Facilitator's notes

PPT: Poster 9: Ask questions that require answers that use position and direction words.

The Maths Programme's *Poster Book* provides opportunities to use real-life contexts to explore concepts. On Poster 9 of the *Poster Book* you can see where Malusi lives in relation to other people and places in his neighbourhood. This poster can be used to stimulate discussion about the position of people and objects in relation to one another and to encourage learners to use and become familiar with the language that describes space, position and direction. Learners link maths to their everyday lives as they discuss and solve problems.

## Ishoni 2: IsiThuba neMilo (iJiyometri)

2 iiyure

### Iikhonsepthi zesithuba

(30 imizuzu)

Abafundi baqalisa ukufunda ngeekhonsepthi zesithuba ezifana nendawo, isalathiso, zibekwe njani (iimbonakalo ezahlukeyo) kunye nombono njengokuba besebenzisa imizimba yabo ukuqwalasela ubudlelwano phakathi kwabo, abanye abantu kunye nezinto.

#### Amanqaku ombhexeshi

- ◆ Yenza umzila wemiqobo usebenzisa izitulo, iihulahupu, amaplanga, iitafle nebhokisi.
- ◆ Imizekelo yemiyalelo ongayisebenzisa:
  - Thatha amanyathelo amabini ukuya phambili.
  - Tsibela ngaphakathi kwehulahupu.
  - Tsibela ngaphandle kwehulahupu.
  - Yima ngomlenze omnye ngaphakathi kwehulahupu.
  - Khasela phambili phakathi kwemilenze yetafle.
  - Yima uze uguquke.
  - Thatha amanyathelo amathathu ubuyela umva.
  - Faka umlenze omnye ngaphakathi kwehulahupu.
  - Tsiba ibhokisi.
  - Hambahamba phakathi kwezitulo.
  - Yima ebhokisini.



#### Umsebenzi 4

Umbhexeshi wenze umzila wemiqobo olula. Tshintshana neqabane ngokuhamba kulo mzila wemiqobo. Sebenzisa isigama sendawo nesalathiso ukunika imiyalelo ecacileyo.

#### Ukusebenzisa iNcwadi yeePowusta ukuthetha ngendawo nesalathiso

##### Amanqaku ombhexeshi

PPT: IPowusta 9: Buza imibuzo efuna iimpendulo ezisebenzisa amagama endawo nesalathiso.

*INcwadi yeePowusta* yeNkqubo yeMathematika ibonelela ngamathuba okusebenzisa imixholo yobomi bokwenene ekuqwalaseleni iikhonsepthi. KwiPowusta 9 ye*Ncwadi yeePowusta* uzakubona apho ahlala khona uMalusi xa kuthelekiswa nabanye abantu kunye neendawo apho ebumelwaneni. Le powusta isenokusetyenziselwa ukukhuthaza ingxoxo ngendawo yabantu nezinto ngokuphathelene kwenye nenye kwanokukhuthaza abafundi ukuba basebenzise baze baqhelane nesigama esichaza isithuba, indawo kunye nesalathiso. Abafundi boyamanisa imathematika nobomi babo bemihla ngemihla njengokuba bexoxa kwaye besombulula iingxaki.

### Facilitator's notes

- ◆ Ask participants to complete **Activity 5** in their small groups. Have each group report back on the activity.
- ◆ Remind participants that position and direction questions and vocabulary are introduced not only during Mathematics focus times, but are also woven into the daily programme throughout the school day. Also remind them that the teacher plays an important role in modelling appropriate vocabulary.



### Activity 5

In your group, look at Poster 9 and discuss the following:

1. What position and direction words could you introduce to learners and encourage them to use?

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**Position:** on top of, behind, in front of, in, on, under, next to.

**Direction:** turn, straight, forwards, towards, away from, left, right, to, from, around, along, through.

2. What other questions could you ask learners that would help them to learn about position, direction, orientation (views) and perspective?

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Examples:

- Where is ...?
- What is in front/behind/under/next to the ...?
- How will Malusi get to ...?

### Facilitator's notes

- ◆ Draw attention to Malusi waving goodbye to Granny. Ask the participants:
  - What do you see in the picture?
  - Where do you think Malusi is going?
  - How do you think he will get there?
- ◆ List the direction words as they are called out, e.g. turn, straight, forwards, towards, away from, left, right, to, from, around, along, through.
- ◆ Ask the participants: Where in the playground could Malusi hide from the other learners?
- ◆ List the position words, e.g. top of, behind, in, on, under, bottom, next to, upside down.
- ◆ PPT: Briefly define the spatial concepts of position, direction, orientation (views) and perspective. Discuss how learners first use their own bodies to explore spatial concepts.
- ◆ Ask participants what kinds of activities in their daily programmes will help learners develop the understanding of these spatial concepts.

Refer to pages 172–177 of the *Concept Guide* to read more about space.

## Amanqaku ombhexeshi

- ◆ Cela abathathinxaxheba ukuba benze **Umsebenzi 5** kumaqela abo amancinci. Iqela ngalinye malinike ingxelo ngomsebenzi.
- ◆ Khumbuza abathathinxaxheba ukuba imibuzo engesigama sendawo nesalathiso ayaziswa nje kuphela ngexesha lokugxila kwiMathematika, kodwa ikwathungelelwe kwinkqubo yemihla ngemihla kulo lonke usuku lwesikolo. Kwakhona bakhumbuze ukuba utitshala udlala indima ebaluleke kakhulu ekusebenziseni isigama esifanelekileyo.



### Umsebenzi 5

Kumaqela enu, jongani iPowusta 9 nize nixoxe ngoku kulandelayo:

1. Ngawaphi amagama endawo nesalathiso onokwazisa abafundi ngawo uze ubakhuthaze ukuba bawasebenzise?

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**Indawo:** phezu kwe-, ngasemva, ngaphambi kwe-, ngaphakathi, ngaphezu, ngaphantsi, ecalweni kwe-.

**Isalathiso:** jika, nkqo, phambili, ukuya nga-, kude ne-, ekhohlo, ekunene, iya ku-, ivela ku-, jikele e-, ngase, phume e-.

2. Yeyiphi eminye imibuzo onokuyibuza abafundi enokubanceda bafunde ngendawo, isalathiso, zibekwe njani (iimbonakalo) kwaneembono?

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Imizekelo:

- Iphi i-...?

- Yintoni engaphambi/engasemva/engaphantsi/esecaleni kwe-...?

- Uzakufikelela njani uMalusi e-...?

## Amanqaku ombhexeshi

- ◆ Tsalela umdla kuMalusi ebhayibhayisa kuMakhulu. Buza abathathinxaxheba:
  - Nibona ntoni emfanelisweni?
  - Nicinga ukuba uMalusi uyaphi?
  - Nicinga ukuba uzakufika njani apho?
- ◆ Dwelisa amagama okwalathisa njengokuba ebizwa, umz. jika, ngqala, phambili, ukuya nga-, kude ne-, ekhohlo, ekunene, iya ku-, ivela ku-, jikele e-, ngase-, phume e-.
- ◆ Buza abathathinxaxheba: Angazimela phi ebaleni lokudlala uMalusi kwabanye abafundi?
- ◆ Dwelisa amagama endawo, umz. ngaphezu kwe, ngasemva, ngaphakathi, phezu, naphantsi, ecaleni kwe-, ejonge ezantsi.
- ◆ PPT: Nika inkcazelo ngokufutshane ngeekhonsepthi zendawo, zesalathiso, zibekwe njani (iimbonakalo ezahlukeyo) kunye neembono. Xoxa ngendlela abafundi abaqale bayisebenzise ngayo imizimba yabo ukujonga iikhonsepthi zendawo.
- ◆ Buza abathathinxaxheba ukuba yimisebenzi eluhlobo olunjani kwiinkqubo zabo zemihla ngemihla ezakunceda abafundi baphuhlise ingqiqo yabo yeekhonsepthi zesithuba.

Jonga kumaphepha 172–177 esiKhokelo seeKhonsepthi ukuze ufunde banzi ngesithuba.

### Facilitator's notes

- ◆ In Grade R learners recognise, identify and name three-dimensional (3-D) objects and two-dimensional (2-D) shapes.
- ◆ Refer to pages 178–189 of the *Concept Guide*.
- ◆ Discuss the terms '2-D shapes' and '3-D objects'.
- ◆ Use real objects to demonstrate as you explain the difference between these terms.

In Grade R learners focus on recognising, identifying and naming three-dimensional (3-D) objects and two-dimensional (2-D) shapes.

- ◆ 3-D means that an object has three dimensions: length, breadth (width) and height.
- ◆ 2-D means that a shape has two dimensions: length and breadth (width).

### Recognising, identifying and comparing three-dimensional objects

#### Facilitator's notes

- ◆ Discuss how learners engage with the properties of 3-D objects as they explore everyday materials such as boxes, cans, toilet roll inners, balls and so on.
- ◆ Ask participants what they provide in their classrooms that helps learners to discuss, compare and sort objects. Explain that the next activity will demonstrate how to help learners recognise the properties of objects.
- ◆ Show the video and ask participants to complete the activity in their groups.

In Grade R learners explore the properties of everyday objects. They build constructions using recycled household materials such as boxes, cans, tubs, toilet roll inners, balls and so on. They investigate and describe box- and ball-shaped objects. They compare and sort objects and talk about similarities and differences.



#### Video 2

*Activity Guide: Term 1, Week 3, Day 1 #4 (page 54)*

Watch the video of a teacher talking to learners who are sorting a collection of objects. Listen to how she prompts the learners to explain how they are sorting the objects and how to use the correct terms to describe each object.

1. List the words that are used to describe the objects in the video.

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**Amanqaku ombhexeshi**

- ◆ KwiBanga R abafundi banakana, bolathe baze banike amagama ezinto ezineenkangeleko ezintathu (3-D) neemilo ezineenkangeleko ezimbini (2-D).
- ◆ Jonga kumaphepha 178–189 *esiKhokelo seeKhonsephi*.
- ◆ Xoxani ngamagama athi 'iimilo ezingu2-D' kunye 'nezinto ezingu3-D'.
- ◆ Sebenzisa izinto zokwenene ukubonisa njengokuba ucacisa umahluko phakathi kwala magama.

KwiBanga R abafundi bagxila ekunakaneni, ekwalatheni nasekunikeneni amagama ezinto ezineenkangeleko ezintathu (3-D) kunye neemilo ezineenkangeleko ezimbini (2-D).

- ◆ U3-D uthetha ukuba into ineenkangeleko ezintathu: ubude, ububanzi nokuphakama.
- ◆ U2-D uthetha ukuba imilo ineenkangeleko ezimbini: ubude nobubanzi.

**Ukunakana, ukwalatha nokuthelekisa izinto ezineenkangeleko ezintathu****Amanqaku ombhexeshi**

- ◆ Xoxa ngendlela abafundi abajongana ngayo neempawu zezinto ezingu3-D njengokuba behlola iimathiriyeli zemihla ngemihla ezifana neebhokisi, iitoti, iroli engaphakathi kwiphepha langasese, iibhola, njalonjalo.
- ◆ Buza abathathinxaxheba ukuba basebenzisa ntoni eziklasini zabo ukuncedisa abafundi ukuba baxoxe, bathelekise okanye bahlele izinto. Cacisa ukuba umsebenzi olandelayo uzakubonisa indlela abanokuncedwa ngayo abafundi ukuba banakane iimpawu zezinto.
- ◆ Bonisa ngevidiyo uze ucele abathathinxaxheba ukuba benze umsebenzi ngokwamaqela.

KwiBanga R abafundi baqwalasela iimpawu zezinto zemihla ngemihla. Bakha izinto besebenzisa iimathiriyeli zasekhaya ezisetyenziswa ngokutsha ezifana neebhokisi, iitoti, iithabhu, iiroli ezingaphakathi kumaphepha angasese, iibhola, njalonjalo. Benza uphando baze bachaze izinto ezimile okwebhokisi nebhola. Benza uthelekiso baze bahlele izinto kwaye bathethe ngokwahlukana nokufana kwazo.

**Ividiyo 2**

*IsiKhokelo semiSebenzi: Ikota 1, iVeki 3, Usuku 1 #4 (iphepha 55)*

Bukela ividiyo katitshala ethetha nabafundi abahlela ingqokelela yezinto. Mamela indlela abakhokela ngayo abafundi ukuba bacacise indlela abazihlela ngayo izinto kwanendlela abawasebenzisa ngayo amagama achanileyo ukuchaza into nganye.

1. Dwelisa amagama asetyenzisiweyo ukuchaza izinto ezikwividiyo.

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2. What questions does the teacher ask to prompt the learners to describe the objects?

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How many sides does it have?

How many corners does it have?

How many edges does it have?

Are all the sides the same length?

Which ones are longer?

Which ones are shorter?

Are the sides straight or curved?

Does the ball have corners?

How does the ball move? Why do you think it moves in that way?

How does the box move? Why do you think it moves in that way?

Refer to pages 178–181 of the *Concept Guide* to read more about 3-D objects.

### Moving from 3-D objects to 2-D shapes

#### Facilitator's notes

- ◆ Ask a volunteer to join you. Ask participants to look at this person from the front, the top and the side, and to describe what they see. Explain that we can view this person from many different positions if we move or if we turn them.
- ◆ Ask the volunteer to lie flat on his/her back on a large sheet of paper and trace around him/her with a koki. Once the outline has been drawn, have the participant stand up.
- ◆ Ask participants what they see on the paper.
- ◆ Ask questions that focus on the person and on the shape or outline of the person, for example: Can you look at the drawing from different positions?
- ◆ Place a number of boxes, a large piece of paper and crayons on each group's table. Explain that the participants will explore the boxes in **Activity 6**.
- ◆ After the activity discuss what participants observed. Point out that this activity helps learners create shapes by tracing around the base of objects.

In Grade R, the focus is on the properties of objects and shapes. Learners learn to identify and describe the properties of both objects and shapes.



#### Activity 6

Explore and describe the properties of a box.

- ◆ Place a box on a piece of paper.
- ◆ Trace around the base of the box.
- ◆ Describe the lines of your drawing.  
Straight, four, two long and two short/all the same



2. Yeyiphi imibuzo ebuzwa ngutitshala ukukhokela abafundi ukuba bachaze izinto?

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- Mangaphi amacala enawo?  
Zingaphi iikona enazo?  
Mingaphi imiphetho enayo?  
Ingaba onke amacala abubude obulinganayo?  
Ngawaphi amade?  
Ngawaphi amafutshane?  
Ingaba inamacala angqalileyo okanye agobileyo?  
Ingaba ibhola ineekona?  
Ihamba njani ibhola? Ucinga ukuba kutheni ihamba ngolo hlobo?  
Ihamba njani ibhokisi? Ucinga ukuba kutheni ihamba ngolo hlobo?

Jonga kumaphepha 178–181 *esiKhokelo seeKhonsepthi* ukuze ufunde banzi ngezinto ezingu3-D.

### Ukusuka kwizinto ezingu3-D ukuya kwiimilo ezingu2-D

#### Amanqaku ombhexeshi

- ◆ Celi ivolontiya lime nawe. Cela abathathinxaxheba ukuba bajonge lo mntu ukusuka ngaphambili, phezulu nasemacaleni, baze bachaze oko bakubonayo. Cacisa ukuba lo mntu singambona kwiindawo ezahlukeneyo ukuba siyajikajika okanye simguqule.
- ◆ Cela ivolonyita ukuba licambalale nca phantsi ngomqolo phezulu koxwebhu lwephepha elikhulu uze utreyise umjikeleze ngekhoki. Wakube uwuzobile umphandle, cela umthathinxaxheba ukuba aphakame.
- ◆ Buza abathathinxaxheba ukuba babona ntoni ephepheni.
- ◆ Buza imibuzo egxile emntwini nakwimilo okanye umzobo womntu, umzekelo: Ingaba ungakwazi ukuwujonga lo mzobo kumacala ohlukeneyo?
- ◆ Beka inani leebhokisi, iphepha elikhulu kunye neekhrayoni kwitafle nganye. Cacisa ukuba abathathinxaxheba bazakuphonononga iibhokisi **kuMsebenzi 6**.
- ◆ Emva komsebenzi xoxa ngoko abathathinxaxheba bakuqwalaseleyo. Cacisa ukuba lo msebenzi unceda abafundi ukuba benze iimilo ngokutreyisa umphantsi wezinto.

KwiBanga R, okona kugxilwa kuko ziimpawu zezinto nezeemilo. Abafundi bafunda ukwalatha nokuchaza iimpawu zezinto nezeemilo.



#### Umsebenzi 6

Phonononga uze uchaze iimpawu zebhokisi.

- ◆ Beka ibhokisi kwisiqwenga sephepha.
- ◆ Treyisa ujikeleze umphantsi webhokisi.
- ◆ Chaza imigca yomzobo wakho.  
Ingqalile, mine, mibini emide ize ibemibini emifutshane/yonke iyafana

- ◆ Name the shape you have drawn.
- ◆ How do you know it's a square/rectangle?
- ◆ How many sides does it have?
- ◆ How many corners does it have?
- ◆ What is the difference between the box and the square/rectangle?

## Recognising, describing and comparing two-dimensional shapes

### Facilitator's notes

- ◆ Explain that learners also need opportunities to explore a variety of shapes to find out what the common properties of a particular shape are. Refer participants to **Activity 7** and ask them to use their attribute blocks and to follow the instructions.
- ◆ Point out that the attribute block is an object. (It has length, width and height.) If you focus on the surface of the attribute block by running your finger along the edges, you will follow the lines and trace the length and width of the shape, e.g. a square, rectangle, triangle or circle (the edge of the circle is curved).
- ◆ Ensure that participants understand the difference between 3-D and 2-D and can explain this to learners.
- ◆ Emphasise that in Grade R learners do not learn the terms 3-D and 2-D. They only talk about 'objects' and 'shapes', but they should use the correct vocabulary to describe the properties.
- ◆ Link **Activity 7** to Poster 8 and briefly discuss the shapes.
- ◆ Explain the term 'orientation'.

Learners need to observe and discuss a variety of 2-D shapes to find out what the common properties of a particular shape are, e.g. even though all triangles may not look exactly the same, they all have three sides and three corners; all rectangles have four sides regardless of the orientation.

Use the attribute blocks on your table to explore 2-D shapes.



### Activity 7

In your group, talk about the shape of the surface of each attribute block.

- ◆ Look for a shape that has four corners.
- ◆ Use your finger to trace around the shape. What is the shape called?
- ◆ Look for a shape that has no straight sides.
- ◆ Use your finger to trace around the shape. What is the shape called?
- ◆ Look for a shape that has four sides that are exactly the same.
- ◆ Look for a shape that has three sides that are exactly the same.
- ◆ Think of a question that would encourage learners to think and reason.

Refer to pages 182–189 of the *Concept Guide* to read more about 2-D shapes.

- ◆ Nika igama lemilo uyizobileyo.
- ◆ Wazi njani ukuba sisikwere/luxande?
- ◆ Inamacala amangaphi?
- ◆ Ineekona ezingaphi?
- ◆ Yintoni umahluko phakathi kwebhokisi kunye nesikwere/uxande?

## Ukunakana, ukuchaza nokuthelekisa iimilo ezineenkangeleko ezimbini

### Amanqaku ombhexeshi

- ◆ Cacisa ukuba nabafundi bayawadinga amathuba okuphonononga iimilo ezahlukileyo ukuze bafumanise ukuba zeziphi iimpawu eziqhelekileyo zemilo leyo. Thumela abathathinxaxheba ku**Msebenzi 7** uze ubacele ukuba basebenzise iibhloko zeathribhyuthi zabo baze balandele imiyalelo.
- ◆ Cacisa ukuba ibhloko yeathribhyuthi yinto. (Inobude, ububanzi nomphakamo). Ukuba ugxile kumphantsi webhloko yeathribhyuthi ngokuhambisa umnwe wakho kwimiphetho yayo, uzakulandela imigca uze utreyise ubude nobubanzi bemilo, umz. isikwere, uxande, unxantathu okanye isangqa (umphetho wesangqa ugobile).
- ◆ Qinisekisa ukuba abathathinxaxheba bayawuqonda umahluko phakathi kuka3-D no2-D kwaye bazakukwazi ukucacisela abafundi.
- ◆ Gxininisa kwinto yokuba abafundi beBanga R abafundi amagama ka3-D no2-D. Bathetha kuphela 'ngezinto' kunye 'neemilo', kodwa kufuneka basebenzise isigama esichanileyo xa bechaza iimpawu.
- ◆ Yoyamanisa **Umsebenzi 7** nePowusta 8 uze uxoxe ngokufutshane ngeemilo.
- ◆ Cacisa igama elithi 'indawobume'.

Abafundi badinga ukuqwalasela nokuxoxa ngeemilo ezingu2-D ezahlukileyo ukuze bafumanise ukuba zeziphi iimpawu eziqhelekileyo zemilo leyo, umz. nangona bonke oonxantathu bengenakufana ncam, bonke banamacala amathathu kunye neekona ezintathu; onke amaxande anamacala amane kungakhathaliseki ngendawobume.

Sebenzisa iibhloko zeathribhyuthi etafileni yakho ukuze uqwalasele iimilo ezingu2-D.



### Umsebenzi 7

Kwiqela lakho, thethani ngemilo kumphantsi webhloko yeathribhyuthi nganye.

- ◆ Khangela imilo eneekona ezine.
- ◆ Sebenzisa iminwe yakho utreyise ujikeleza imilo. Le milo ibizwa ngokuba yintoni?
- ◆ Khangela imilo engenamacala angqalileyo.
- ◆ Sebenzisa iminwe yakho utreyise ujikeleza imilo. Le milo ibizwa ngokuba yintoni?
- ◆ Khangela imilo enamacala amathathu afana twatse.
- ◆ Sebenzisa iminwe yakho utreyise ujikeleza imilo. Le milo ibizwa ngokuba yintoni?
- ◆ Cinga ngombuzo ozakukhuthaza abafundi ukuba bacinge kwaye baqipe.

Jonga kumaphepha 182–189 esiKhokelo seeKhonsepthi ukuze ufunde banzi ngeemilo ezingu2-D.

## Symmetry

(30 minutes)

### Facilitator's notes

- ◆ PPT: Symmetrical and non-symmetrical shapes and objects. Refer to pages 188–191 of the *Concept Guide*.
- ◆ Remind participants about the **practice principle** and that learners need many opportunities to practise new skills and apply them in different contexts.

An object or shape has symmetry when it can be divided into two equal halves along a central line. Symmetrical patterns can be found on our bodies, in nature, in the built environment and in pictures. Line symmetry divides the shape into two identical parts. The line can be horizontal or vertical.

Refer to pages 188–191 of the *Concept Guide* to read more about symmetry.

The **practice principle**: Learners should have plenty of time to practise new skills and knowledge. When learners have regular practice in what they have already learnt, they become more competent and more confident. Learners enjoy repetition and practice. The Grade R teacher should provide repeated opportunities for learners to practise and improve new skills.

## Isimetri (ulinganomacala)

(30 imizuzu)

### Amanqaku ombhexeshi

- ◆ PPT: Imilo nezinto ezinesimetri (ulinganomacala) nezingenasimetri. Jonga kumaphepha 188-191 *esiKhokelo seeKhonsepthe*.
- ◆ Khumbuza abathathinxaxheba **ngomgaqo wokuziqhelisa** nokokuba abafundi badinga amathuba amaninzi okuziqhelanisa nezakhono ezitsha kunye nokuwasebenzisa kwimixholo eyahlukileyo.

Into okanye imilo inesimetri xa inokwahlulwa kabini ngokulinganayo kumgca osembindini. Iipateni zesimetri zingafumaneka emizimbeni yethu, kwizakhiwo nasemifanekisweni. Umgca wesimetri wahlula imilo ibe ziinxenye ezimbini ezifana twatse. Umgca usenokuthi tyaba okanye ume nkqo.

Jonga amaphepha 188-191 *esiKhokelo seeKhonsepthe* ukuze ufunde banzi ngolinganomacala.

**Umgaqo wokuziqhelisa:** Abafundi kufuneka babenexesha elininzi lokuziqhelisa nezakhono kwanolwazi olutsha. Xa abafundi beziqhelisa rhoqo noko basele bekufundile, baba nokuzithemba. Abafundi bayalonwabela uphindaphindo kwanokuziqhelisa. Utitshala weBanga R kufuneka abonelele abafundi ngamathuba ophindaphindo okubaqhelisa kwanokuphucula izakhono ezitsha.

# Session 3: Planning for teaching

2 hours

## Facilitator's notes

- ◆ Refer participants to Appendix A: Term 1 Weekly Content Summary (Weeks 3–5).
- ◆ Read the whole class, teacher-guided and workstation activities sections.
- ◆ Have participants work in groups to complete **Activity 8**.

## Term 1 Content Summary (Weeks 3–5)

(40 minutes)

Appendix A: Term 1 Weekly Content Summary (Weeks 3–5) 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.

Read the whole class, teacher-guided and workstation activities sections and complete Activity 8.



### Activity 8

Look at Appendix A: Term 1 Weekly Content Summary (Weeks 3–5). Answer the questions.

Questions	Week 3	Week 4	Week 5
What is the Content Area Focus for the week?	Space and Shape (Geometry)	Space and Shape (Geometry)	Space and Shape (Geometry)
What are the key concepts that learners will be learning?	Properties of 3-D objects Spatial concepts: in and out Big and small	Properties of 2-D shapes (circle) Symmetry	Properties of 2-D shapes (square) Backwards, forwards Inside, outside
What new knowledge is introduced?	Counting objects 1–5 Properties of boxes and balls Objects that roll or slide Position: in and out Big and small Biggest and smallest	Circle Symmetry Number 2	2-D shape: square Direction: forwards and backwards Position: inside and outside
What skills are being practised?	Oral counting 1–5 Reinforce number 1 Sorting	Oral counting 1–5 Number 1 Counting objects 1–5	Circle Number concept 1 and 2 Oral counting 1–5 Counting objects 1–5

# Ishoni 3: Ukucwangcisa ukufundisa

2 iiyure

## Amanqaku ombhexeshi

- ♦ Yalatha abathathinxaxheba kwisiNgeniso A: Ikota 1 IsiShwankathelo soMxholo seVeki neVeki (Iveki 3-5).
- ♦ Funda amacandelo emisebenzi yeklasi yonke, ekhokelwa ngutitshala neyesitishi sokusebenzela.
- ♦ Cela abathathinxaxheba basebenze kumaqela ukwenza **Umsebenzi 8**.

### Ikota 1 IsiShwankathelo somXholo (Iveki 3-5)

(40 imizuzu)

Isingeniso A: Ikota 1 IsiShwankathelo soMxholo seVeki neVeki (iiVeki 3-5) sibonisa ngeNkalo yomXholo ekuGxininiswa kuyo engundoqo yeveki, izihloko ekuzakunyathelwa kuzo, ulwazi olutsha nokuziqhelisa ekuzakugxilwa kulo kwiveki nganye, kunye nemisebenzi yeklasi yonke, umsebenzi okhokelwa ngutitshala kunye nomsebenzi weqela wokusebenza ngokuzimeleyo ekucetyiswa ngayo ngeveki.

Funda amacandelo emisebenzi yeklasi yonke, ekhokelwa ngutitshala neyesitishi sokusebenzela uze ugqibezele Umsebenzi 8.



### Umsebenzi 8

Jonga isiNgeniso A: Ikota 1 IsiShwankathelo soMxholo seVeki neVeki (Iveki 3-5). Phendula le mibuzo.

Imibuzo	Iveki 3	Iveki 4	Iveki 5
Ithini iNkalo yoMxholo ekuGxininiswa kuyo kule veiki?	IsiThuba neMilo (ijiyometri)	IsiThuba neMilo (ijiyometri)	IsiThuba neMilo (ijiyometri)
Zithini iikhonsepthi ezingundoqo ezizakufundwa ngabafundi?	Iimpawu zezinto ezingu3-D iikhonsepthi zesithuba: phandle naphakathi Khulu noncinci	Iimpawu zeemilo ezingu2-D (isangqa) Isimetri	Iimpawu zeemilo ezingu2-D (isikwere) Ukubuya umva, ukuya phambili Ngaphakathi, ngaphandle
Loluphi ulwazi olutsha oluzakwaziswa?	Ukubala izinto 1-5 Iimpawu zeebhola neebhokisi Izinto eziqengqelekayo okanye ezitshebelezayo Indawo: Phakathi naphandle Ukhulu noncinci Eyona inkulu neyona incinci	Isangqa Isimetri Inani 2	Imilo engu2-D: isikwere Isalathiso: ngaphambili, ngasemva Indawo: ngaphakathi, ngaphandle
Zeziphi izakhono ekuqheliswa ngazo?	Ukubala ngomlomo 1-5 Bethelala inani 1 Ukuhlela	Ukubala ngomlomo 1-5 Inani 1 Ukubala izinto 1-5	Isangqa Inggikelelo-manani ka1 no2 Ukubala ngomlomo 1-5 Ukubala izinto 1-5



**Video 3**

*Activity Guide: Term 1, Week 5, Day 3 #4 (page 90)*

Watch the video of learners discussing a poster.

1. Make a note of the questions and maths problems that the teacher presents to the learners during the poster discussion.

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2. Write down other questions that the teacher could have asked.

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Refer to Weeks 3, 4 and 5 in *Activity Guide: Term 1*. Complete Activity 9 in your group.



**Activity 9**

1. Find Weeks 3, 4 and 5 in *Activity Guide: Term 1*. Answer the questions.
  - ◆ What is the Content Area Focus for each week?
  - ◆ What topics and new knowledge are taught in each week?
  - ◆ How does the 'Practise' content link to the previous week?
  - ◆ What do you need to get ready before teaching each week?
  - ◆ Read the whole class activities and small group activities.
  - ◆ Discuss in your small group how you will plan and organise your class for these three weeks of teaching.
2. Refer to Appendix A: Term 1 Weekly Content Summary (Weeks 3–5). Match the whole class and small group activities in Weeks 3, 4 and 5 of the *Activity Guide: Term 1* to the Content Summary for each week.



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.





**Ividiyo 3**

*IsiKhokelo semiSebenzi: iKota 1, iVeki 5, Usuku 3 #4 (iphepha 91)*

Bukela ividiyo yabafundi bexoxa ngepowusta.

1. Qaphela imibuzo neengxaki zemathematika ezinikwa abafundi ngutitshala ngexesha leengxoxo ngepowusta.

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2. Bhala phantsi eminye imibuzo utitshala ebenokuyibuza.

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Jonga kwiiVeki 3, 4 no5 kwisiKhokelo semiSebenzi: Ikota 1. Gqibezelani Umsebenzi 9 kwiqela lenu.



**Umsebenzi 9**

1. Fumana iiVeki 3, 4 no5 kwisiKhokelo semiSebenzi: Ikota 1. Phendula imibuzo.
  - ◆ Yeyiphi iNkalo yomXholo ekuGxininiswa kuyo kwiveki nganye?
  - ◆ Zeziphi izihloko kunye nolwazi olutsha olufundiswayo kwiveki nganye?
  - ◆ Ingaba umxholo othi 'Ziqhelise' unxulumana njani noweveki ephelileyo?
  - ◆ Yintoni odinga ukuyilungiselela ngaphambi kokufundisa kwiveki nganye?
  - ◆ Funda imisebenzi yeklassi yonke kunye nemisebenzi yamaqela amancinci.
  - ◆ Xoxani kumaqela enu amancinci ngendlela ezinakupwancisa ngayo nize nilungiselele iiklassi zenu kwezi veki zintathu zokufundisa.
2. Jonga kwiSingeniso A: Ikota1 IsiShwankathelo soMxholo weVeki neVeki (iiVeki 3–5). Tshatisa imisebenzi yeklassi yonke neyeqela elincinci kwiiVeki 3,4 no5 kwisiKhokelo semiSebenzi: Ikota 1 nesiShwankathelo soMxholo seveki nganye.



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

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

(20 minutes)

### Facilitator's notes

- ◆ **Lessons learnt:** Ask participants to think about what they have learnt during the workshop and to complete **Activity 10** 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.



### Activity 10

**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

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 aze athi bakuhamba abafundi ekupheleni kosuku abhale phantsi oko akuqwalaseleyo kwincwadi elungiselelwe uqwalaselo enendawo yokubhala amanqaku ngomfundi ngamnye.

## Imisebenzi yokuqokumbela

(20 imizuzu)

### Amanqaku ombhexeshi

- ◆ **Izifundo ezifundiweyo:** Cela abathathinxaxheba bacinge malunga noko bakufundileyo kule ndibano yocweyo baze benze Umsebenzi 10 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:** Chaza imihla yendibano yocweyo elandelayo uze uyivale indibano yocweyo.



### Umsebenzi 10

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

Izinto esele ndizenza ezisebenza kakuhle	Iimbono ezintsha endingathanda ukuzizama



### Take back to school task

1. Read the *Concept Guide* pages that were referred to during this workshop.
2. Prepare a Space and Shape (Geometry) maths area. Take a photograph of it and bring it to the next workshop.
3. Use *Activity Guide: Term 1* to plan and implement Weeks 3–5 of the Maths Programme. When planning, think about how the guiding principles will inform your planning and teaching:
  - How will you find out what learners already know and understand? (**level principle**)
  - How will you build on the prior knowledge that learners bring from home? (**context principle**)
  - How will you ensure that the planned activities are meaningful for learners? (**context principle**)
  - How will you build active listening and speaking into your planned activities? (**interaction principle**)
4. Write a reflection of what worked well and what did not work so well. Bring your reflection notes and some examples of work that the learners did to the next workshop.

### Evaluation

Complete the Evaluation Form.



### **Umsebenzi ekubuyelwa nawo esikolweni**

1. Funda amaphepha esiKhokelo seeKhonsepti ekolathwe kuwo ngexesha lendibano yocweyo.
2. Lungisa indawo yemathematika yeSithuba neMilo (Ijijometri). Yifote uze uze nayo kwindibano yocweyo elandelayo.
3. Sebenzisa *isiKhokelo semiSebenzi: Ikota 1* ukulungiselela nokuphumeza iNkqubo yeMathematika yeeVeki 3–5. Xa ucwangcisa, cinga ngendlela imigaqo ekhokelayo ezakubanegalelo ngayo kucwangciso lwakho nasekufundiseni:
  - Uzakufumanisa njani oko abafundi abasele bekwazi kwaye bekuqonda? (**umgaqo wenqanaba**)
  - Uzakwakhela njani phezu kolwazi abafundi abeze nalo emakhaya? (**umgaqo womxholo**)
  - Uzakuqinisekisa njani ukuba imisebenzi ecwangcisiweyo inengqiqo kubafundi? (**umgaqo womxholo**)
  - Uzakukhuthaza njani ukuphulaphula nokuthetha kwimisebenzi yakho ecetywayo? (**umgaqo wentsebenziswano**)
4. Bhala ingxelo ngezinto ocinga ukuba zisebenze kakuhle kwanezo zingasebenzanga kakuhle. Yiza namanqaku owathathileyo ngocamngco lwakho kunye nemizekelo ethile yemisebenzi abayenzileyo abafundi kwindibano yocweyo elandelayo.

### **Uhlolo**

Gcwalisa iFomu yoHlolo.

**APPENDIX A: TERM 1 WEEKLY CONTENT SUMMARY (WEEKS 3-5)**

**Term 1: Activity Plan**

Week 3				
<b>CONTENT AREA:</b> SPACE AND SHAPE (GEOMETRY)				
<b>TOPIC:</b> Recognise, identify and name 3-D objects; describe, sort and compare 3-D objects (boxes and balls); position, orientation and views: in and out				
<b>INTRODUCE NEW KNOWLEDGE:</b> Counting objects 1–5, properties of boxes and balls, objects that roll or slide, position: in and out, big/small, biggest/smallest				
<b>PRACTISE:</b> Oral counting 1–5, reinforce number concept (1), sorting				
Whole class activities		Teacher-guided activity	Workstation activities	
<b>Day 1</b>	Explore properties of boxes and balls.	Counting one-to-one correspondence 1–5. Big and small game. Properties of boxes and balls. Compare boxes and balls. Sort objects that slide and roll.	<b>Activity 1</b>	Construct objects with boxes.
<b>Day 2</b>	Compare sizes of boxes and balls.		<b>Activity 2</b>	Big and small playdough balls – sorting.
<b>Day 3</b>	Explore which can slide, which can roll; big/biggest and small/smallest.		<b>Activity 3</b>	Paint prints with boxes or blocks.
<b>Day 4</b>	Discuss why objects roll and slide.		<b>Activity 4</b>	Build animal shelters for the farm animals with building blocks.
<b>Day 5</b>	Position: in and out.			
Week 4				
<b>CONTENT AREA:</b> SPACE AND SHAPE (GEOMETRY)				
<b>TOPIC:</b> Recognise, identify and name 2-D shapes (circle); compare 3-D objects and 2-D shapes; symmetry				
<b>INTRODUCE NEW KNOWLEDGE:</b> Circle, symmetry, introduce number 2				
<b>PRACTISE:</b> Oral counting 1–5, counting objects 1–5, number 1				
Whole class activities		Teacher-guided activity	Workstation activities	
<b>Day 1</b>	Introduce 2; number frieze story.	Naming the shape and colour of counters from the <i>Resource Kit</i> . Circle activity – properties. Number dot cards, pictures and symbols 1 and 2.	<b>Activity 1</b>	Playdough template – make 2.
<b>Day 2</b>	What is a shape? Introduce the circle.		<b>Activity 2</b>	Circle prints – paint and containers.
<b>Day 3</b>	Find circles in the classroom.		<b>Activity 3</b>	‘Plate’ template – cut and paste pictures of food.
<b>Day 4</b>	Count different body parts; explore symmetry in their own body.		<b>Activity 4</b>	Body puzzles.
<b>Day 5</b>	Circle (use poster) and symmetry in a picture.			

**ISINGENISO A: IKOTA 1 ISISHWANKATHELO SOMXHOKO WEVEKI NEVEKI (IIVEKI 3-5)**

**Ikota 1: Isicwangciso somSebenzi**

<b>Iveki 3</b>				
<b>INKALO YOMXHOLO: ISITHUBA NEMILO (IJIYOMETRI)</b>				
<b>ISIHLOKO: Nakana, yalatha unike amagama ezinto ezingu3-D; chaza, hlela uthelekise izinto ezingu3-D (iibhokisi neebhola); indawo, ukufumana indawo nembonakalo: phakathi naphandle</b>				
<b>YAZISA ULWAZI OLUTSHA:</b> Ukubala izinto 1-5, iimpawu zeebhokisi neebhola, izinto eziqengqelekayo nezitshebelezayo, indawo: phandle naphakathi, khulu/ncinci, eyona inkulu/eyona ncinci				
<b>ZIQHELISE:</b> Ukubala ngomlomo 1-5, ukubethelela kwingqikelelo yenani (1), ukuhlela				
<b>Imisebenzi yeklasi yonke</b>		<b>Imisebenzi ekhokelwa ngutitshala</b>	<b>Imisebenzi yesitishi sokusebenzela</b>	
<b>Usuku 1</b>	Phonononga iimpawu zeebhokisi neebhola.	Ukubala ukuhambelana kwenye nenywe 1-5. Umdlalo kakhulu noncinci. Iimpawu zeebhokisi neebhola. Thelekisa iibhokisi neebhola. Hlela izinto ezitshebelezayo neziqengqelekayo.	<b>Umsebenzi 1</b> <b>Umsebenzi 2</b> <b>Umsebenzi 3</b> <b>Umsebenzi 4</b>	Yakha izinto ngeebhokisi. Iibhola ezinkulu nezincinci ngentlama yokudlala – ukuhlela. Peyinta iiprinti ngeebhokisi okanye iibhloko. Yakha izindlu zezilwanyana zasekhaya ngeebhloko zokwakha.
<b>Usuku 2</b>	Thelekisa ubungakanani beebhokisi nobeebhola.			
<b>Usuku 3</b>	Phonononga ukuba zeziphi ezitshebelezayo, izeziphi eziqengqelekayo; ezinkulu/ezona zinkulu kakhulu nezincinci/ezona zincinci.			
<b>Usuku 4</b>	Xoxa ngokuba kutheni izinto ziqengqeleka kwaye zitshebeleza.			
<b>Usuku 5</b>	Indawo: phakathi no-phandle.			
<b>Iveki 4</b>				
<b>INKALO YOMXHOLO: ISITHUBA NEMILO (IJIYOMETRI)</b>				
<b>ISIHLOKO: Nakana, yalatha uze unike amagama eemilo ezingu2-D (isangqa); thelekisa izinto ezingu3-D neemilo ezingu2-D; isimetri</b>				
<b>YAZISA ULWAZI OLUTSHA:</b> Isangqa, isimetri, yazisa inani 2				
<b>ZIQHELISE:</b> Ukubala ngomlomo 1-5, ukubala izinto 1-5, inani 1				
<b>Imisebenzi yeklasi yonke</b>		<b>Imisebenzi ekhokelwa ngutitshala</b>	<b>Imisebenzi yesitishi sokusebenzela</b>	
<b>Usuku 1</b>	Yazisa u2; ibali lefrizi yenani.	Ukunika igama lemilo nombala wezixhobo zokubala ezikwi <i>Kiti yeziXhobo</i> . Umsebenzi wesangqa – iimpawu. Amakhadi anamachokoza amanani, imifanekiso neesimboli 1 no2.	<b>Umsebenzi 1</b> <b>Umsebenzi 2</b> <b>Umsebenzi 3</b> <b>Umsebenzi 4</b>	Ithempleyithi yentlama yokudlala – yenza u2. Iprinti yesangqa – ipeyinti nezikhongozeli. Ithempleyithi ye'pleyiti' – sika uze uncamathisele imifanekiso yokutya. Iphazili zomzimba.
<b>Usuku 2</b>	Yintoni imilo? Yazisa isangqa.			
<b>Usuku 3</b>	Fumana izangqa eklasini.			
<b>Usuku 4</b>	Bala amalungu ohlukileyo omzimba; phonononga isimetri emizimbeni yabo.			
<b>Usuku 5</b>	Isangqa (sebenzisa ipowusta) kunye nesimetri emfanekisweni.			

Week 5				
<b>CONTENT AREA:</b> SPACE AND SHAPE (GEOMETRY)				
<b>TOPIC:</b> Recognise, identify and name 2-D shapes (square); compare 3-D objects and 2-D shapes (box and square); direction: forwards/backwards; position: inside/outside				
<b>INTRODUCE NEW KNOWLEDGE:</b> Square, directionality (forwards/backwards), position (inside/outside)				
<b>PRACTISE:</b> Circle, oral counting 1–5, counting objects 1–5, number concept 1 and 2				
Whole class activities		Teacher-guided activity	Workstation activities	
<b>Day 1</b>	Introduce the square (vocabulary).	Oral counting/matching dot, number cards 1 and 2. Touch counting Unifix blocks, build Unifix towers. Properties of a box and a square. Feely bag (boxes and balls). 2-D square activity – tracing around a box. Position (inside/outside).	<b>Activity 1</b>	Playdough with circle and square cookie cutter to make model. Cut out squares and paste to make a picture. Sorting square-shaped and circle-shaped objects. Puzzles (minimum six pieces).
<b>Day 2</b>	Properties of the square; difference between circle and square.		<b>Activity 2</b>	
<b>Day 3</b>	Word problem ( <i>Poster Book</i> ) – square; find squares in the class.		<b>Activity 3</b>	
<b>Day 4</b>	Directionality (forwards and backwards).		<b>Activity 4</b>	
<b>Day 5</b>	Make patterns with squares, colours.			



Iveki 5				
INKALO YOMXHOLO: ISITHUBA NEMILO (IJIYOMETRI)				
ISIHLOKO: Nakana, yalatha unike igama leemilo ezingu2-D (isikwere); thelekisa izinto ezingu3-D neemilo ezingu2-D (iibhokisi nezikwere); isalathiso: phambili/emva; indawo: ngaphakathi/ngaphandle				
YAZISA ULWAZI OLUTSHA: Isikwere, icala ekuyiwa ngakulo (phambili/emva), indawo (ngaphakathi/ngaphandle)				
ZIQHELISE: Isangqa, ukubala ngomlomo 1-5, ukubala izinto 1-5, ikhonsepthe yenani 1 no2				
Imisebenzi yeklasi yonke		Umsebenzi okhokelwa ngutitshala	Imisebenzi yezitishi zokusebenzela	
<b>Usuku 1</b>	Yazisa isikwere (isigama).	Ukubala ngomlomo/ichokoza lokutshatisa, amakhadi amanani 1 no2. Iibhloko ze <i>Unifix</i> zokubala ezichukunyiswayo, yakha iithawa ze <i>Unifix</i> . Iimpawu zebhokisi nesikwere. Ingxowa empamphathwayo (iibhokisi neebhola). Umsebenzi wesikwere esingu2-D – ukutreyisa ujikeleza ibhokisi. Indawo (ngaphakathi/ngaphandle).	<b>Umsebenzi 1</b>	Intlama yokudlala nesisiki ntlama esisikwere ekuzakwenziwa ngaso imodeli.
<b>Usuku 2</b>	Iimpawu zesikwere; umahluko phakathi kwesangqa nesikwere.		<b>Umsebenzi 2</b>	Sika izikwere uze uzincamathisele ukwenza umfanekiso.
<b>Usuku 3</b>	Iingxaki zamagama ( <i>iNcwadi yeePowusta</i> ) – isikwere; fumana isikwere eklasini.		<b>Umsebenzi 3</b>	Hlela izinto ezimile okwesikwere nemizimile okwesangqa.
<b>Usuku 4</b>	Icala ekuyiwa ngakulo (phambili/emva).		<b>Umsebenzi 4</b>	Iiphazili (amaqhekeza amathandathu ubuncinane).
<b>Usuku 5</b>	Yenza iipateni ngezikwere, imibala.			

# Workshop 2 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 yokuHlola yeNdibano yoCweyo 2

1. Ingaba indibano yocweyo ifikelele koko ubukulindele?

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2. Ufunde ntoni kule ndibano yocweyo ekuncede kakhulu?

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3. Ingaba ikhona into ongakhange uyithande okanye obenobunzima bokuyiqonda?

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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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