INkqubo yeMathematika yokuPhucula yeBanga R
Grade R Mathematics Improvement Programme

INdibano yoCweyo 2 ● Workshop 2

Incwadi yokuSebenzela yoMthathinxaxheba ● Participant's Workbook

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

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

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

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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)

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)

Opening and reflection

1 hour

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.

    _____
    _____
    _____

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

    _____
    _____
    _____

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

    _____
    _____
    _____

Ukuvula nocamngco

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.

    _____
    _____
    _____

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

    _____
    _____
    _____

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

    _____
    _____
    _____

Video 1

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.

_____

_____

_____

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.

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.

📹 Ividiyo 1

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.

_____

_____

_____

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

👥 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**

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).

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:

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

_____
_____
_____
_____

Iseshoni 1: Amagqabantshintshi ngomxholo

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 ezahlukileyo (umz. ukusuka phezulu, ukusuka ngasezantsi, xa ize ngecala, xa iguquliwe yajonga ezantsi).

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

♦ Umbhalo ozuba ngumxholo 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. Jongani kwisihloko ngasinye nize nixoxe ngomxholo kunye nenkqubela ekhulayo kuzo zone iikota.

_____
_____
_____
_____

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

    _____
    _____
    _____
    _____

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

    _____
    _____
    _____
    _____

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.

    _____
    _____
    _____
    _____

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

_____
_____
_____
_____

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

_____
_____
_____
_____

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

_____
_____
_____
_____

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.

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

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.

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?

_____
_____
_____

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

_____
_____
_____

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

Iseshoni 2: IsiThuba neMilo (iJiyometri)   **2 iiyure**

Iikhonsepthi zesithuba   **(30 imizuzu)**

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

👥 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

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 ngokuphathelelene 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.

👥 Umsebenzi 5

Kumaqela enu, jongani iPowusta 9 nize nixoxe ngoku kulandelayo:

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

   _____
   _____
   _____

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

   _____
   _____
   _____

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

Introducing shapes (1 hour)

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

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

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.

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

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.

Ukwazisa ngeemilo   (1 iyure)

Kwibanga R abafundi bagxila ekunakaneni, ekwalatheni nasekunikeni 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

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

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.

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

Ukusuka kwizinto ezingu3-D ukuya kwiimilo ezingu2-D

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

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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.
♦ 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
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 three sides that are exactly the same.

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

Umsebenzi 6

Phononga uze uchaze iimpawu zebhokisi.

♦ Beka ibhokisi kwisiqwenga sephepha.
♦ Treyisa ujikeleze umphantsi webhokisi.
♦ Chaza imigca yomzobo wakho.
♦ 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

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.

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

Symmetry (30 minutes)

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)

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 seeKhonsepthi* ukuze ufunde banzi ngolinganomacala.

Umgaqo wokuziqhelisa: Abafundi kufuneke 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

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?			
What are the key concepts that learners will be learning?			
What new knowledge is introduced?			
What skills are being practised?			

Iseshoni 3: Ukucwangcisela ukufundisa   2 iiyure

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 veki?			
Zithini iikhonsepthi ezingundoqo ezizakufundwa ngabafundi?			
Loluphi ulwazi olutsha oluzakwaziswa?			
Zeziphi izakhono ekuqheliswa ngazo kwiVeki 2?			

Activity Guide: Term 1: Weeks 3, 4 and 5　　　　　　　　**(60 minutes)**

📹 Video 3

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.

_____
_____
_____

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

_____
_____
_____

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.

IsiKhokelo semiSebenzi: Ikota1: iiVeki 3, 4 no5   (60 imizuzu)

Ividiyo 3

Bukela ividiyo yabafundi bexoxa ngepowusta.

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

_____
_____
_____

2.   Bhala phantsi eminye imibuzo utitshala ebenokuyibuza.

_____
_____
_____

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

Umsebenzi 9

1. Fumana iiVeki 3, 4 no5 kw*isiKhokelo 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 yeklasi yonke kunye nemisebenzi yamaqela amancinci.
♦ Xoxani kumaqela enu amancinci ngendlela ezinakucwangcisa ngayo nize nilungiselele iiklasi zenu kwezi veki zintathu zokufundisa.

2. Jonga kwiSingeniso A: Ikota1 IsiShwankathelo soMxholo weVeki neVeki (iiVeki 3–5). Tshatisa imisebenzi yeklasi yonke neyeqela elincinci kwiiVeki 3,4 no5 kw*isiKhokelo semiSebenzi: Ikota 1* nesiShwankathelo soMxholo seveki nganye.

👁 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   (20 minutes)

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

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

Imisebenzi yokuqukumbela   (20 imizuzu)

👥 **Umsebenzi 10**

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

Izinto esele ndizenza eziscbenza 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 e*siKhokelo seeKhonsepthi* ekolathwe kuwo ngexesha lendibano yocweyo.

2. Lungisa indawo yemathematika yeSithuba neMilo (IJiyometri). 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

<table>
<tr><td colspan="6" align="center">Week 3</td></tr>
<tr><td colspan="6">CONTENT AREA: SPACE AND SHAPE (GEOMETRY)</td></tr>
<tr><td colspan="6">TOPIC: Recognise, identify and name 3-D objects; describe, sort and compare 3-D objects (boxes and balls); position, orientation and views: in and out
INTRODUCE NEW KNOWLEDGE: Counting objects 1–5, properties of boxes and balls, objects that roll or slide, position: in and out, big/small, biggest/smallest
PRACTISE: Oral counting 1–5, reinforce number concept (1), sorting</td></tr>
<tr><td colspan="2">Whole class activities</td><td colspan="2">Teacher-guided activity</td><td colspan="2">Workstation activities</td></tr>
<tr><td>Day 1</td><td>Explore properties of boxes and balls.</td><td colspan="2" rowspan="5">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.</td><td>Activity 1</td><td>Construct objects with boxes.</td></tr>
<tr><td>Day 2</td><td>Compare sizes of boxes and balls.</td><td>Activity 2</td><td>Big and small playdough balls – sorting.</td></tr>
<tr><td>Day 3</td><td>Explore which can slide, which can roll; big/biggest and small/smallest.</td><td>Activity 3</td><td>Paint prints with boxes or blocks.</td></tr>
<tr><td>Day 4</td><td>Discuss why objects roll and slide.</td><td rowspan="2">Activity 4</td><td rowspan="2">Build animal shelters for the farm animals with building blocks.</td></tr>
<tr><td>Day 5</td><td>Position: in and out.</td></tr>
<tr><td colspan="6" align="center">Week 4</td></tr>
<tr><td colspan="6">CONTENT AREA: SPACE AND SHAPE (GEOMETRY)</td></tr>
<tr><td colspan="6">TOPIC: Recognise, identify and name 2-D shapes (circle); compare 3-D objects and 2-D shapes; symmetry
INTRODUCE NEW KNOWLEDGE: Circle, symmetry, introduce number 2
PRACTISE: Oral counting 1–5, counting objects 1–5, number 1</td></tr>
<tr><td colspan="2">Whole class activities</td><td colspan="2">Teacher-guided activity</td><td colspan="2">Workstation activities</td></tr>
<tr><td>Day 1</td><td>Introduce 2; number frieze story.</td><td colspan="2" rowspan="5">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.</td><td>Activity 1</td><td>Playdough template – make 2.</td></tr>
<tr><td>Day 2</td><td>What is a shape? Introduce the circle.</td><td>Activity 2</td><td>Circle prints – paint and containers.</td></tr>
<tr><td>Day 3</td><td>Find circles in the classroom.</td><td>Activity 3</td><td>'Plate' template – cut and paste pictures of food.</td></tr>
<tr><td>Day 4</td><td>Count different body parts; explore symmetry in their own body.</td><td>Activity 4</td><td>Body puzzles.</td></tr>
<tr><td>Day 5</td><td>Circle (use poster) and symmetry in a picture.</td><td></td><td></td></tr>
</table>

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

Ikota 1: Isicwangciso somSebenzi

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

Week 5

CONTENT AREA: SPACE AND SHAPE (GEOMETRY)

TOPIC: 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

INTRODUCE NEW KNOWLEDGE: Square, directionality (forwards/backwards), position (inside/outside)

PRACTISE: Circle, oral counting 1–5, counting objects 1–5, number concept 1 and 2

Whole class activities		Teacher-guided activity	Workstation activities	
Day 1	Introduce the square (vocabulary).	Oral counting/matching dot, number cards 1 and 2.	**Activity 1**	Playdough with circle and square cookie cutter to make model.
Day 2	Properties of the square; difference between circle and square.	Touch counting Unifix blocks, build Unifix towers.	**Activity 2**	Cut out squares and paste to make a picture.
Day 3	Word problem (*Poster Book*) – square; find squares in the class.	Properties of a box and a square.	**Activity 3**	Sorting square-shaped and circle-shaped objects.
			Activity 4	Puzzles (minimum six pieces).
Day 4	Directionality (forwards and backwards).	Feely bag (boxes and balls).		
Day 5	Make patterns with squares, colours.	2-D square activity – tracing around a box.		
		Position (inside/outside).		

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, ikhonsepthi yenani 1 no2		
Imisebenzi yeklasi yonke	**Umsebenzi okhokelwa ngutitshala**	**Imisebenzi yezitishi zokusebenzela**
Usuku 1 Yazisa isikwere (isigama).	Ukubala ngomlomo/ichokoza lokutshatisa, amakhadi amanani 1 no2. Iibhloko ze*Unifix* zokubala ezichukunyiswayo, yakha iithawa ze*Unifix*. Iimpawu zebhokisi neskwere. Ingxowa empampathwayo (iibhokisi neebhola). Umsebenzi wesikwere esingu2-D – ukutreyisa ujikeleza ibhokisi. Indawo (ngaphakathi/ngaphandle).	**Umsebenzi 1** Intlama yokudlala nesisiki ntlama esisikwere ekuzakwenziwa ngaso imodeli.
Usuku 2 Iimpawu zesikwere; umahluko phakathi kwesangqa nesikwere.		**Umsebenzi 2** Sika izikwere uze uzincamathisele ukwenza umfanekiso.
Usuku 3 Iingxaki zamagama (*iNcwadi yeePowusta*) – isikwere; fumana isikwere eklasini.		**Umsebenzi 3** Hlela izinto ezimile okwesikwere nemizimile okwesangqa.
Usuku 4 Icala ekuyiwa ngakulo (phambili/emva).		**Umsebenzi 4** Iiphazili (amaqhekeza amathandathu ubuncinane).
Usuku 5 Yenza iipateni ngezikwere, imibala.		

Workshop 2 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 2

1. Ingaba indibano yocweyo ifikelele koko ubukulindele?

    _____
    _____
    _____
    _____

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?

    _____
    _____
    _____
    _____

5. Ingaba unazo iingcebiso zokuphucula nangakumbi iindibano zocweyo?

    _____
    _____
    _____
    _____