IsiXhosa/English

INkqubo yeMathematika yokuPhucula yeBanga R
Grade R Mathematics Improvement Programme

INdibano yoCweyo 10 ● Workshop 10
IsiKhokelo somBhexeshi ● Facilitator's Guide

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.

I**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 ngeziqinisekiso zootitshala kunye nezifundo ezifutshane ezivunyiweyo zeUCT, umsebenzi osekwe esikolweni, uphuhliso lweemathiriyeli kunye nophando lokuxhasa ukufundisa nokufunda kuzo zonke iimeko eMzantsi Afrika.

IMBULELO
Senza umbulelo ongazenzisiyo:
- KwiCandelo leKharityhulam kwiSebe leMfundo laseGauteng, Izifundo zooTitshala kunye namagosa eCandelo elikhethekileyo leMfundo ngenkxaso yabo ekuveliswweni kwale mathirieli.
- 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.

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Overview

Purpose

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

The purpose of this workshop is to continue assisting teachers to implement the Maths Programme in their classrooms. Participants will have the opportunity to reflect on their implementation of the Maths Programme and discuss their planning, teaching and assessment. They will also consider learner progress, and individual developmental and learning needs. Participants will reflect on appropriate assessment strategies for capturing learner progress. The workshop explores the content for Term 4 Weeks 1–3 and its classroom implementation.

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

Learning outcomes

♦ To reflect on the implementation of Term 3 Weeks 7–10
♦ To reflect on the use of the guiding principles of teaching maths in Grade R
♦ To deepen understanding of continuous learner observation in Grade R
♦ To reflect on informal forms of assessment in Grade R
♦ To reflect on challenges and find solutions to implementing the Maths Programme
♦ To map out the Maths Programme content to be taught in Term 4 Weeks 1–3

Workshop content

♦ Opening and reflection   (1 hour)
♦ Session 1: Observation and assessment   (1 hour)
TEA
♦ Session 2: The guiding principles of teaching maths in Grade R   (1 hour)
♦ Session 3: Introducing numbers 10 and 0   (1 hour)
LUNCH
♦ Session 4: Planning for teaching   (1½ hours)
♦ Closing activities   (30 minutes)

Amagqabantshintshi

Injongo

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

Injongo yale ndibano yocweyo kukuncedisa ootitshala ukuba baphumeze iNkqubo yeMathematika eziklasini zabo. Abathathinxaxheba bazakuba nethuba lokucamngca ngokuphumeza kwabo iNkqubo yeMathematika baze baxoxe ngocwangciso, ukufundisa nokuhlola kwabo. Bazakuphinda baqwalasele nenkqubela yabafundi, ukukhula komfundi ngamnye kunye neemfuno zokufunda. Abathathinxaxheba bazakucamngca ngeendlela ezifanelekileyo zokuhlola ezizakugcina inkqubela yomfundi. Indibano yocweyo iphononongu umxholo weKota 4 iiVeki 1–3 kunye nokuphunyezwa kwawo eklasini.

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

Iziphumo zokufunda

♦ Ukuthetha ngokuphunyezwa kweKota 3 iiVeki 7–10
♦ Ukucamngca ngokusebenzisa imigaqo ekhokela ukufundisa imathematika kwiBanga R
♦ Ukuluqonda nangakumbi uqwalaselo oluqhubekayo lomfundi kwiBanga R
♦ Ukucamngca ngeendlela ezingekho sikweni kwiBanga R
♦ Ukucamnga ngeengxaki nokufumana izisombululo zokuphumeza iNkqubo yeMathematika
♦ Ukuceba umxholo weNkqubo yeMathematika oza kufundiswa kwiKota 4 iiVeki 1–3

Umxholo wendibano yocweyo

♦ Ukuvula nocamngco (1 iyure)
♦ Iseshoni 1: Uqwalaselo nohlolo (1 iyure)
ITI
♦ Iseshoni 2: Imigaqo ekhokelayo yokufundisa imathematika kwiBanga R (1 iyure)
♦ Iseshoni 3: Ukwazisa amanani u10 no0 (1 iyure)
ISIDLO SASEMINI
♦ Iseshoni 4: Ukucwangcisela ukufundisa (1½ iiyure)
♦ Imisebenzi yokuqukumbela (30 imizuzu)

Preparation

- PPT welcome and outcomes
- Familiarise yourself with all the PowerPoints and videos
- Read:
  Concept Guide, pages 14–73
  Activity Guide: Term 4, pages 22–69
- Bring the post box
- Remind participants to bring their:
  Concept Guide
  Activity Guide: Term 3
  Activity Guide: Term 4
  Poster Book
- Cut out the eight pictures of the guiding principles (Appendix B)
- Prepare one set of the number cards in Appendix C for each group

Materials

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

Ulungiselelo

- PPT ulwamkelo neziphumo
- Ziqhelanise nazo zonke ii-*PowerPoints* neevidiyo
- Funda:
  IsiKhokelo seeKhonsepthi, amaphepha 14–73
  IsiKhokelo semiSebenzi: Ikota 4, amaphepha 22–69
- Yiza nebhokisi yeposi
- Khumbuza abathathinxaxheba ukuba beze nesabo:
  IsiKhokelo seeKhonsepthi
  IsiKhokelo semiSebenzi: 3
  IsiKhokelo semiSebenzi: 4
  INcwadi yeePowusta
- Sika imifanekiso ibe sibhozo yemigaqo ekhokelayo (Isingeniso B)
- Yenza isethi yamakhadi amanani yeqela ngalinye kwiSingeniso C

Iimathiriyeli

- Iphepha lefliptshathi, iikhoki
- IPrestikhi
- *IKiti yeziXhobo* kwiqela ngalinye

Opening and reflection

1 hour

Reflection involves thinking and talking about your experiences and what you have learnt.

Reflection on implementation

Facilitator's notes
♦ PPT: Learning outcomes of the workshop.
♦ Discuss the post box comments and feedback from the previous workshop. Remind participants to 'post' any new comments and feedback during the workshop.
♦ Remind participants of the *Take back to school task* from the end of Workshop 9.
♦ Refer participants to **Activity 1** and read through the instructions aloud.
♦ Give each group a sheet of flipchart paper. Participants complete the activity in their groups. Groups then present their newspaper article.
♦ After the presentations, summarise the successes and challenges and discuss the implications for classroom implementation.

Here is the *Take back to school task* from Workshop 9.

❗ Take back to school task (Workshop 9)

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

👥 Activity 1

1. In your group, prepare a newspaper article on teaching and learning maths in Grade R. Use the Maths Programme and your classroom implementation of it as the basis for your article. Include the following:

Ukuvula nocamngco

Ucamngco luquka ukucinga nokuthetha ngamava akho kwanoko ukufundileyo.

Ucamngco ngokuphunyezwa

Amanqaku ombhexeshi

♦ PPT: Iziphumo zokufunda zendibano yocweyo.
♦ Xoxa ngamanqaku akwibhokisi yeposi kunye nezimvo ezicatshulwe kwindibano yocweyo engaphambili. Khumbuza abathathinxaxheba ukuba 'bapose' amanqaku amatsha kunye nezimvo ngexesha leNdibano yoCweyo 9
♦ Khumbuza bathathinxaxheba ngo*Msebenzi ekubuyelwa nawo esikolweni* ekupheleni kweNdibano yoCweyo 9
♦ Bhekisa abathathinxaxheba ku**Msebenzi 1** kwaye ufunde imiyalelo ngokuvakalayo.
♦ Nika iqela ngalinye iphepha elikhulu lefliptshathi. Abathathinxaxheba benza umsebenzi emaqeleni abo. Amaqela abonisa inqaku lawo lephephandaba.
♦ Emva kokubonisa, shwankathela okube yimpumelelo nokube ngumngeni kwaye nixoxe ngeziphumo zokwenza oko eklasini.

Nanku *Umsebenzi ekubuyelwa nawo esikolweni* osuka kwiNdibano yoCweyo 9.

⊘ Umsebenzi ekubuyelwa nawo esikolweni (INdibano yoCweyo 9)

1. Sebenzisa *isiKhokelo semiSebenzi: Ikota 3* ukucwangcisa nokusebenza kwiKota 3 iiVeki 7–10 zeNkqubo zeMathematika.
2. Yenza amanqaku ngoko kusebenze kakuhle, okungasebenzanga kakuhle nendlela ohlangabezene ngayo nemingeni ngethuba ukuphumeza uKota 3 iiVeki 7–10.
3. Bhala izimvo zakho encwadini oyisebenzisela ukugcina inkqubela yomfundi ngamnye (incwadi yoqwalaselo lomfundi). Sebenzisa uluhlu lokuqwalasela luka-**'Qwalasela ukuba abafundi bayakwazi uku-'** (ibhokisi eneliso) ngexesha lemisebenzi ekhokelwa ngutitshala ukukhokela uqwalaselo nezimvo zakho.
4. KwiNdibano yoCweyo elandelayo yiza nencwadi yakho yoqwalaselo lomfundi namanqaku owenzileyo xa ucamngca ngosuku ngalunye lokufundisa.
5. Yiza nekopi yeKota 3: Umzekelo weRekhodi yoHlolo oluQhubekayo (ethathwe kw*isiKhokelo semiSebenzi: Ikota 3*) kwindibano yocweyo elandelayo.

👥 Umsebenzi 1

1. Kwiqela lakho, yenzani inqaku lephephandaba malunga nokufundisa nokufunda imathematika kwiBanga R. Sebenzisa iNkqubo yeMathematika nendlela oza kukwenza ngayo eklasini njengesiseko senqaku lakho. Quka oku kulandelayo:

- why maths in Grade R is important
- your successes and challenges with implementing the Maths Programme in Terms 1, 2 and 3
- strategies you used to resolve challenges.

_____
_____
_____
_____
_____
_____

2. Write the newspaper article on flipchart paper.
3. You will present your article to the other groups and answer any of their questions.

- ♦ kutheni ibalulekile imathematika kwiBanga R
- ♦ iimpumelelo nemingeni yakho ukuphumeza iNkqubo yeMathematika kwiiKota 1, 2 no3
- ♦ ubuchule obusebenzisileyo ukuhlangabezana nemingeni.

_____
_____
_____
_____
_____
_____

2. Bhala inqaku lephephandaba kwifliptshathi.
3. Uza kubonisa inqaku lakho kwamanye amaqela uze uphendule nayiphi imibuzo abanayo.

Session 1: Observation and assessment   1 hour

Observation in Grade R

Observation is an important part of the process of teaching, learning and assessment. In Grade R, the main assessment method is observation. Teachers gather information about learners during whole class activities, small group activities and free play (inside and outside the classroom). During the teacher-guided activities, your interaction with individual learners provides valuable information about their progress. By recording the learners' progress in understanding specific maths concepts in your notebook on an ongoing basis, you build up a complete picture of each learner.

Objective observation

For observation to be effective, teachers need to understand and know what to focus on.

In the next activity, you will practise your observation skills. *This is an individual activity. It is very important that you do not talk to anyone about your observations.*

Facilitator's notes

♦ PPT: Photo from **Activity 2**.
♦ Explain that in **Activity 2** participants will practise their observation skills.
♦ Read through **Activity 2** together and make sure everyone understands that it is an individual activity and not to be discussed with anyone.
♦ When everyone has finished the activity, give participants a turn to call out what they have written. Write down each observation (exactly as it is called out) and tick the observations that are repeated.
♦ Discuss the importance of being objective when observing. Make the point that teachers need to record facts (what is seen and heard) and not assumptions or opinions (what they think may be happening and why).
♦ Read through the list of observations that participants called out and discuss whether each statement is a FACT or an ASSUMPTION. Write 'F' or 'A' next to each statement. For example:
   - The learner has built a construction using rectangle-shaped and triangle-shaped blocks. **F**
   - The learner is not managing to balance the triangle-shaped blocks. **A**
   - The learner is focused on the block-building task. **F**
   - The learner in the background is very happy. **A**
♦ Participants go through their own lists, marking each statement with an 'F' or an 'A'.
♦ Wrap up the activity with a discussion about the importance of objective observation.

Iseshoni 1: Uqwalaselo nohlolo 1 iyure

Uqwalaselo kwiBanga R

Uqwalaselo luyinxalenye yenkqubo yokufundisa, ukufunda nohlolo. KwiBanga R, indlela yohlolo olungundoqo luqwalaselo. Utitshala uqokelela ulwazi malunga nabafundi ngexesha lemisebenzi yeklasi yonke, imisebenzi yamaqela amancinci nokuzidlalela (ngaphakathi nangaphandle eklasini). Ngexesha lomsebenzi okhokelwa ngutitshala, ukusebenzisana kwakho nomfundi ngamnye kubanika ulwazi olufanelekileyo ngenkqubela yabo. Ngokubhala phantsi inkqubela yabafundi, ukuqonda iikhonsepthi ezithile zemathematika encwadini yakho amathuba wonke, wakha umfanekiso opheleleyo womfundi ngamnye.

Uqwalaselo olunenjongo

Ukuze uqwalaselo lusebenze kakuhle, utitshala kufuneka aqonde kwaye azi into amakagxile kuyo.

Kumsebenzi olandelayo, uza kuziqhelisa izakhono zakho zoqwalaselo. *Lo ngumsebenzi womntu ngamnye. Kubaluleke kakhulu ukuba ungaxeleli mntu ngoqwalaselo lwakho.*

Amanqaku ombhexeshi

♦ PPT: Ifoto esuka ku**Msebenzi 2**.

♦ Chaza ukuba ku**Msebenzi 2** abathathinxaxheba baza kuziqhelisa izakhono zabo zoqwalaselo.

♦ Fundani **Umsebenzi 2** kunye kwaye uqiniseke ukuba wonke umntu uyaqonda ukuba lo ngumsebenzi womntu ngamnye kwaye awuzukuxoxwa nomnye umntu.

♦ Xa umntu egqibile ukwenza umsebenzi, nika abathathinxaxheba ithuba lokuchaza oko bakubhalileyo. Bhala phantsi uqwalaselo ngalunye (ngqo ngokwale ndlela luchazwe ngayo) ubeke uphawu lwezinto oziqwalaseleyo eziye zaphindaphindwa.

♦ Xoxani ngokubaluleka kwenjongo ngexesha loqwalaselo. Gxininisa ukuba ootitshala kufuneka bawabhale phantsi amanqaku ayinyani (okuboniweyo nokuvakeleyo) kungenziwa luqikelelo okanye iimbono (into abacinga ukuba isenokwenzeka, kuba kutheni).

♦ Funda uluhlu lwezinto zoqwalaselo ezibizwe ngabathathinxaxheba nize nixoxe ngengxelo nganye ukuba IYINYANI okanye LUQIKELELO na. Bhala 'N' okanye 'Q' ecaleni kwengxelo. Umzekelo:
  - Umfundi uyakha esebenzisa imilo eluxande nemilo engunxantathu. **N**
  - Umfundi akakwazi kuzinzisa iibhloko zemilo engunxantathu. **Q**
  - Umfundi ugxile kumsebenzi wokwakha ngeebhloko. **N**
  - Umfundi ongasemva wonwabe kakhulu. **Q**

♦ Abathathinxaxheba bajonga izintlu zabo, bephawula ngokubeka uphawu kwingxelo nganye ngo'N' okanye ngo'Q'.

♦ Qoshelisa umsebenzi ngengxoxo engokubaluleka kwenjongo yoqwalaselo.

Activity 2

Look at the photograph of two Grade R learners playing with blocks. Write down what you observe when you look at the photograph.

My observations:

_____
_____
_____
_____

Facilitator's notes

♦ After watching **Video 1**, add participants' observations to the list you recorded in **Activity 2**.
♦ Remind participants of the difference between a FACT and an ASSUMPTION. Write 'F' or 'A' next to each statement.

Video 1

Activity Guide: Term 3, Week 8, Workstation 3: Bingo game (page 150)

1. Watch the video of a group of learners playing the game, Bingo. Write down your observations of the learners.

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_____
_____
_____
_____
_____
_____
_____

👪 Umsebenzi 2

Jonga ifoto yabafundi ababini beBanga R bedlala ngeebhloko. Bhala phantsi okuqwalaselayo ngeli xesha ujonge ifoto.

Endikuqwalaseleyo:

_____
_____
_____
_____

Amanqaku ombhexeshi

♦ Emva kokubukela **Ividiyo 1**, dibanisa uqwalaselo lwabathathinxaxheba kuluhlu olurekhodileyo ku**Msebenzi 2**.

♦ Khumbuza abathathinxaxheba ngomahluko phakathi kwento EYINYANI nento ELUQIKELELO. Bhala 'N' okanye 'Q' ecaleni kwengxelo nganye.

🎥 Ividiyo 1

IsiKhokelo semiSebenzi: Ikota 3, iVeki 8, Isitishi sokuSebenzela 3: Umdlalo kaBingo (iphepha 151)

1. Bukelani ividiyo yeqela labafundi lidlala umdlalo kaBingo. Bhala okuqwalaseleyo kubafundi.

_____
_____
_____
_____
_____
_____
_____
_____

2. Which of your observations are facts and which are assumptions? Go through your list and write an 'F' or 'A' next to each statement.

When we write what we **think** a learner can or cannot do, or what a learner is feeling, we are making assumptions. The only way to know what a learner is thinking or feeling, is to ask them to tell you.

Objective observation involves:

♦ describing only what you see and hear

♦ recording what the learner is doing and saying in as much detail as possible

♦ not judging – avoid giving your own ideas and opinions

♦ observing each learner regularly, in different activities and at different times of the day.

Activity 3

1. Think about your observations of *one* of your learners in Term 3. What mathematical knowledge and skills is this learner developing?

_____
_____
_____
_____

2. Refer to (3) to (5) of the *Take back to school task* from Workshop 9 (page 10).
   ♦ Discuss your use of the **'Check that learners are able to'** observation list (eye box) during teacher-guided activities.
   ♦ Show members of your group your learner observation book.
   ♦ Take turns to discuss a learner's progress. Which mathematical skills did you observe? How do you know? (What did the learner do and say?)
   ♦ Explain how you captured this information using the Term 3: Exemplar Record of Continuous Assessments.
   ♦ Did you manage to implement a differentiated approach to teaching and learning in your class. If so, how?

_____
_____
_____
_____
_____
_____

2. Zeziphi izinto eziyinyani othe waziqwalasela izeziphi eziluqikelelo? Yiya kuluhlu lwakho ubhale u'N' okanye u'Q' ecaleni kwengxelo.

Xa sibhala into **esicinga** ukuba umfundi unokukwazi okanye akanakukwazi ukuyenza, okanye indlela aziva ngayo umfundi, senza uqikelelo. Inye indlela yokwazi ukuba ucinga ntoni okanye uziva njani umfundi, kukubabuza ukuze bakuxelele.

Injongo yoqwalaselo iquka:

♦ ukuchaza into oyibonayo noyivayo kuphela

♦ ukubhala phantsi into eyenziwa ngumfundi nayithethayo ngokweenkcukacha ezicace kangangoko

♦ akugwebi – lumkela ukunika izimvo neembono ezizezakho

♦ ukuqwalasela umfundi ngamnye rhoqo, kwimisebenzi eyahlukileyo ngamaxesha ahlukeneyo emini.

Umsebenzi 3

1. Cinga ngothe wakuqwalasela kumfundi omnye kwiKota 3. Ingasesiphi isakhono esikhulayo semathematika somfundi?

_____
_____
_____
_____

2. Khangela ku(3) ukuya ku(5) ku*Msebenzi ekubuyelwa nawo esikolweni* osuka kwiNdibano yoCweyo 9 (iphepha 11).

    ♦ Xoxani ngokusetyenziswa kukaluka- '**Qwalasela ukuba abafundi bayakwazi uku-'** uluhlu loqwalaselo (kwibhokisi yeliso) ngexesha lemisebenzi ekhokelwa ngutitshala.

    ♦ Bonisa amalungu eqela lakho incwadi yoqwalaselo yabafundi.

    ♦ Nikanani amathuba ukuxoxa ngenkqubela yomfundi. Zeziphi izakhono zemathematika oziqwalaseleyo? Wazi njani? (Wenze ntoni kwaye utheni umfundi?)

    ♦ Chaza indlela olufake ngayo ulwazi usebenzisa iKota 3: Umzekelo weRekhodi yoHlolo oluQhubekayo.

    ♦ Ingaba ukwazile ukusebenzisa inkqubo ekhethekileyo yokufundisa nokufunda eklasini yakho. Ukuba kunjalo, kanjani?

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_____
_____
_____
_____
_____

Assessment in Grade R

Assessment in Grade R is used to make decisions about the best way to support each learner's development. During teacher-guided activities, whole class activities as well as other activities in the daily programme, you will have opportunities to observe learners and gain insight into their progress. This information should guide your planning for further teaching and learning.

The continuous assessment tables in CAPS and in the Maths Programme's *Activity Guides* are based on the content that has been taught each term and can be used to summarise each learner's progress during the term.

Note that skills and behaviours should be observed on several occasions so that patterns of development over time can be recorded.

Facilitator's notes
♦ Wrap up this session with a discussion about the importance of continuous observation and the regular recording of learner information as a basis for assessment.

Uhlolo kwiBanga R

Uhlolo kwiBanga R lusetyenziselwa ukwenza izigqibo ngeyona ndlela ichanekileyo yokuxhasa ukukhulisa umfundi ngamnye. Ngexesha lemisebenzi ekhokelwa ngutitshala, imisebenzi yeklasi yonke kunye neminye imisebenzi ekwinkqubo yemihla ngemihla, uya kuba namathuba okuqwalasela abafundi uqonde kwaye ubone nenkqubela yabo. Olu lwazi luya kuba sisikhokelo kwisicwangciso sakho sokufundisa nokufunda.

Iitheyibhile zohlolo oluqhubekayo kwiCAPS nez*iKhokelo zemiSebenzi* zeNkqubo yeMathematika zisekwe kumxholo obufundiswa kwikota nganye kwaye zingasetyenziswa ukushwankathela inkqubela yomfundi ngamnye kule kota.

Qaphela ukuba izakhono nendlela yokuziphatha kufuneka iqwalaselwe kwiimeko ezininzi ukuze iipateni zophuhliso zirekhodwe njengokuba ixesha lihamba.

Amanqaku ombhexeshi
♦ Yiqoshelise leseshoni ngengxoxo engokubaluleka koqwalaselo oluqhubekayo nokurekhoda ulwazi lomfundi ngokweziseko zohlolo.

Session 2: The guiding principles of teaching maths in Grade R
1 hour

Throughout the Maths Programme training, we have referred to the guiding principles of teaching maths in Grade R and how these are incorporated into daily classroom practice. Some of the principles are easier to identify and implement than others. As teachers we need to be constantly aware of how, where and when we are using these principles in our classrooms.

Facilitator's notes
♦ PPT: Figure 5, page 14, *Concept Guide*.
♦ Discuss the importance of being conscious of the guiding principles of teaching maths in Grade R and how these inform our approach to teaching. It is only when we are aware of these principles and reflect on how we incorporate them in our teaching that they become a part of how we approach our classroom practice.
♦ Divide the participants into eight small groups. Assign one guiding principle to each group. Give the corresponding picture of this principle (Appendix B) to each group.
♦ Participants discuss their principle in their small groups. They then present their understanding and observations of how their principle plays out in the classroom.
♦ The participants paste the A5 picture on flipchart paper and write their comments underneath it to share with the whole group.

Activity 4

The facilitator will assign one of the guiding principles of teaching maths in Grade R to your group. You will receive a picture of this principle.

1. In your group, discuss the following questions:
   - ♦ What is your understanding of this principle 'in action'?
   - ♦ Does the Maths Programme make it possible to incorporate this principle in your daily teaching?
   - ♦ Now that you have implemented the Maths Programme for three terms, what are your reflections on this principle?
   - ♦ How would your teaching be affected if this principle was absent from your classroom approach?

2. Paste the picture onto a sheet of flipchart paper. Write your comments below the picture so that you can share these with the whole group.

Iseshoni 2: Imigaqo ekhokelayo yokufundisa imathematika kwiBanga R

1 iyure

Kulo lonke ixesha loqeqesho kwiNkqubo yeMathematika, besibhekiselela kwimigaqo ekhokela ukufundisa imathematika kwiBanga R nendlela efakwa ngayo kwinkqubo yemihla ngemihla yokuziqhelisa eklasini. Eminye imigaqo ilula ukuphawuleka nokuyisebenzisa kuneminye. Njengokuba singootitshala kufuneka sisoloko siyazi indlela, indawo nexesha esiya kuyisebenzisa kuyo le migaqo eziklasini zethu.

Amanqaku ombhexeshi

♦ PPT: Umfanekiso 5, iphepha 15, *isiKhokelo seeKhonsepthi*.

♦ Xoxa ngokubaluleka kokuba nolwazi ngemigaqo ekhokela ukufundisa imathematika kwiBanga R nendlela enefuthe ngayo kwindlela esifundisa ngayo. Kuxa sinolwazi ngale migaqo kuphela kwaye sicamngca ngendlela yokuyisebenzisa ekufundiseni ukuze ibe yinxalenye yendlela esithi siziqhelanise nayo ngayo eziklasini.

♦ Yahlula abathathinxaxheba babengamaqela amancinci asibhozo. Sebenzisa umgaqo okhokelayo omnye kwiqela ngalinye. Nika umfanekiso ohambelana nomfanekiso walo mgaqo (Isingeniso B) kwiqela ngalinye.

♦ Abathathinxaxheba baxoxa ngemigaqo kumaqela amancinci. Baze emva koko babonise indlela abaqonda ngayo noqwalaselo ekubeni ibe nefuthe elinjani na imigaqo eklasini.

♦ Abathathinxaxheba bancamathelisa umfanekiso onguA5 kwiphepha lefliptshathi baze babhale izimvo zabo ngaphantsi kwayo babelane neqela lonke.

Umsebenzi 4

Umbhexeshi uya kunika omnye wemigaqo ekhokela ukufundisa imathematika kwiBanga R kwiqela lakho. Uya kufumana umfanekiso walo mgaqo.

1. Kwiqela lakho, xoxani ngale mibuzo ilandelayo:
   ♦ Yintoni oyiqondayo ngalo mgaqo 'xa usenziwa'?
   ♦ Ingaba iNkqubo yeMathematika yenza kube lula ukusebenzisa lo mgaqo ekufundiseni imihla ngemihla?
   ♦ Njengokuba uyenzile iNkqubo yeMathematika kwiikota ezintathu, ingaba ucamngce njani ngalo mgaqo?
   ♦ Ingaba ungayichaphazela indlela ofundisa ngayo xa ungangabikho lo mgaqo kwindlela oyisebenzisa eklasini?

2. Ncamathelisa umfanekiso kwiphepha lefliptshathi. Bhala izimvo zakho ngasezantsi komfanekiso ukuze wabelane ngawo neqela lonke.

THE EIGHT PRINCIPLES OF GRADE R MATHS

1. **The context principle.** Learning takes place in meaningful and appropriate situations.

2. **The activity principle.** Learners should be directly involved in the learning–teaching process.

3. **The play principle.** Children learn best in free-play and guided-play activities.

4. **The level principle.** Learners pass through various levels of understanding and development.

5. **The interaction principle.** Learning takes place when there is communication and sharing of ideas.

6. **The guidance principle.** Learning takes place when teachers guide learners in developing new knowledge.

7. **The inclusivity principle.** Learning takes place in an environment where everyone is welcomed, included, treated fairly, respected and can participate.

8. **The practice principle.** Learning is consolidated through practising new skills and knowledge.

1. **Umgaqo womxholo.** Ukufunda kwenzeka kwiimeko ezinentsingiselo nezifanelekileyo.

2. **Umgaqo womsebenzi.** Abafundi kufuneka bathathe inxaxheba ngqo kwinkqubo yokufundiswa kwabo.

3. **Umgaqo wokudlala.** Abantwana bafunda ngokugqibelela xa bezidlalela naxa besenza imisebenzi eyimidlalo ekhokelwayo.

4. **Umgaqo wenqanaba.** Abafundi badlula kumanqanaba ohlukeneyo okuqonda nophuhliso.

5. **Umgaqo wentsebenziswano.** Ukufunda kwenzeka xa kukho amathuba onxibelelwano nokwabelana ngamava.

6. **Umgaqo wokukhokela.** Ukufunda kwenzeka xa ootitshala bekhokela abafundi ekuphuhliseni ulwazi olutsha.

7. **Umgaqo woquko.** Ukufunda kwenzeka kwimeko apho wonke umntu amkelekileyo, equkiwe, ephethwe kakuhle, enikwa imbeko kwaye ethathe inxaxheba.

8. **Umgaqo wokuziqhelisa.** Ukufunda kuqukunjelwa ngokuziqhelisa kwizakhono ezitsha nolwazi.

IMIGAQO ESIBHOZO KA GRADE R MATHS

25

Session 3: Introducing numbers 10 and 0   1 hour

Introducing number 10

Facilitator's notes
♦ PPT: Summarise information below.
♦ Discuss the base 10 number system that we use. Emphasise that in Grade R learners only need to work with and understand the numbers 0–10. (**Activity 5** is for enrichment. It is not intended for use in Grade R classrooms.)
♦ When using expanding number cards (flashcards) like the ones in Appendix C to make two-digit and three-digit numbers, always use the units (ones), tens or hundreds. Never use only the units to represent a two-digit or three-digit number. For example: for 11 use 10 and 1, not 1 and 1.
♦ Explain that in Grade 1 learners begin to work with place value. They need to understand the value of each digit in the number. It is important that Grade R learners understand that 10 is a number and not just 1 + 0. Learners should make groups of ten. They should also use sticks to make bundles to represent ten and match the bundle with the 'ten' number word card.
♦ **Emphasise that teachers should not introduce place value in Grade R and that Activity 5 is an enrichment activity for workshop participants only**.

The ten numerals used in our place value number system are 0, 1, 2, 3, 4, 5, 6, 7, 8 and 9. These numerals are used to represent units (ones) and to represent an infinite number of values, for example:

♦ tens
♦ hundreds
♦ thousands, and so on.

Learners in the Foundation Phase need to understand that the same numeral can be used to represent different values, depending on the position of the numeral in a number. For example, in each of the numbers below '3' has a different value:

♦ in <u>3</u>, its value is 'three'
♦ in <u>3</u>1, its value is 'thirty'
♦ in <u>3</u>49, its value is 'three hundred'.

Place value is a difficult concept for learners to understand. Researchers have found that many learners up to the age of eight think that the '1' in 15 means 'one'.

Iseshoni 3: Ukwazisa amanani u10 no0   1 iyure

Ukwazisa inani i10

Amanqaku ombhexeshi
♦   PPT: Shwankathela ulwazi olungasezantsi.
♦   Xoxani ngendlela yokubala ngokwedesimali ye10 esiyisebenzisayo. Gxininisa ukuba abafundi beBanga R kufuneka basebenze baze baqonde kuphela amanani 0–10. (**Umsebenzi 5** ngowophuhliso. Awulungiselelwanga ukuba usetyenziswe eziklasini zeBanga R.)
♦   Xa usebenzisa amakhadi ozazululo lwamanani ngokobhalo (amakhadi oonotsheluza) njengezo zikwiSingeniso C ukwenza amanani anemivo emibini okanye anemivo emithathu, soloko usebenzisa amanani amnqakathi (ononye) amashumi okanye amakhulu. Ungaze usebenzise kuphela imivo ukubonisa amanani anemivo emibini nemivo emithathu. Umzekelo: ku11 sebenzisa u10 no1, hayi u1 no1.
♦   Cacisa ukuba kwiBanga 1 abafundi baqalisa ukusebenza ngexabiso lendawo. Kufuneka baqonde ixabiso lomvo ngamnye kwinani. Kubalulekile ukuba abafundi beBanga R baqonde ukuba u10 linani kodwa akango 1+ 0. Abafundi kufuneka benze amaqela amashumi. Kufuneka basebenzise izinti ukwenza inyanda ukubonisa ishumi baze bathelekise loo nyandana kunye nekhadi legama lenani 'ishumi'.
♦   **Gxininisa ukuba ootitshala kufuneka bangalazisi ixabiso lendawo kwiBanga R kwaye Umsebenzi 5 ngumsebenzi wophuhliso kubathathinxaxheba bendibano yocweyo kuphela**.

Amanani alishumi asetyenziswe kwinkqubo yamanani exabiso lendawo ngu0, 1, 2, 3, 4, 5, 6, 7, 8 no9. La ngamanani asetyenziswa ukubonisa imivo (oononye) nokumela amaxabiso enani elingenakubalwa, umzekelo:

♦ amashumi
♦ amakhulu
♦ amawaka, njalonjalo.

Abafundi abakwiSigaba esisisiSeko kufuneka baqonde ukuba inani elinye liyakwazi ukusetyenziswa ukumela amaxabiso ohlukileyo, kuxhomekeke kwindawo elimi kuyo inani kwinani elo. Umzekelo, kwinani ngalinye kula angasezantsi u'3' unamaxabiso ohlukileyo:

♦ ku <u>3</u>, ixabiso ngu 'ntathu'
♦ ku <u>3</u>1, ixabiso 'ngamashumi amathathu'
♦ ku <u>3</u>49, ixabiso 'ngamakhulu amathathu'.

Ixabiso lendawo yikhonsepthi ekunzima ukuba abafundi bayiqonde. Abaphandi bafumanise ukuba abafundi abaninzi ukuya kwiminyaka esibhozo bacinga ukuba u'1' ku15 uthetha ukuba 'inye'.

In Grade 1 learners explore the base ten number system, working with numbers from 11 onwards. They represent these numbers with groups of tens and single ones (units). When they work with numbers 11–19, they begin to understand that in a number like 14, the numeral 1:

♦ does not mean 1
♦ represents 10 ones
♦ therefore, is also 1 ten (1 group of ten).

They also understand that the numeral 4 in 14, represents 4.

DID YOU KNOW?
In the Foundation Phase, learners talk about 'tens' and 'units' as 'groups of ten' and single 'ones'. They represent two-digit and three-digit numbers using grouping models and expanding number cards.

We do not introduce place value in Grade R. The focus in this grade is on understanding the value of the numbers 0–10 and on building a strong number concept within this range. If learners have a good concept of the numbers to 10, this knowledge can be extended in Grade 1 and other grades.

Activity 5

IMPORTANT!
This activity is for the development of your own knowledge and enrichment. It is not appropriate for Grade R learners. Do NOT introduce this activity in Grade R.

Use the counters, sticks and number cards provided to represent the following numbers:

14   31   22   43

1. Represent each number using counters: make groups of ten and single ones.
2. Represent each number using sticks and string: make bundles of ten and single ones.
3. Label the bundles with the correct number cards.
4. Talk about how many groups of ten and how many ones each number has.
5. Discuss the value of each numeral.

KwiBanga 1 abafundi baphononga isiseko senani ushumi kwinkqubo yamanani, besebenza ngamanani ukusuka ku11 ukuya phambili. Babonisa la manani ngokwamaqela eshumi kunye neminqakathi. Xa besebenza ngamanani 11–19, baqala ukuqonda ukuba kwinani elifana no14, inani u1:

♦ alithethi u1
♦ umele oonye abali10
♦ ngoko ke, ikwalishumi eli1 (iqela eli1 leshumi).

Bakwaqonda nokuba inani 4 kwi14, limele u4.

UBUSAZI NA?
KwiSigaba esisisiSeko, abafundi bathetha 'ngamashumi' kunye 'nemivo' njengaqamaqela eshumi 'noononye' azimeleyo. Babonisa amanani anemivo emibini nemivo emithathu besebenzisa imizekelo yokwenziwa kwamaqela namakhadi okwandisa amanani.

Asilazisi ixabiso lendawo kwiBanga R. Ekugxilwa kuko kweli banga kukuqonda ixabiso lamanani u0–10 nokwakha ingqikelomanani eluqilima kolu luhlu. Ukuba umfundi unayo ingqikelelo efanelekileyo yamanani ukuya kufika ku10, olu lwazi luyakwandiswa kwiBanga 1 nakwamanye amabanga.

Umsebenzi 5

OKUBALULEKILEYO!
Lo msebenzi ngowokuphuhlisa ulwazi lwakho nokukuxhobisa. Awubalungelanga abafundi beBanga R. MUSA ukuwazisa lo msebenzi kwiBanga R.

Sebenzisa izixhobo zokubala, izinti namakhadi amanani anikiweyo ukubonisa la manani alandelayo:

14 31 22 43

1. Bonisa inani ngalinye usebenzisa izixhobo zokubala: yenza amaqela eshumi noonye abahamba bodwa.
2. Bonisa inani ngalinye usebenzisa izixhobo zokubala nomtya: yenza iinyanda zeshumi noonye abahamba bodwa.
3. Lebhelisha iinyanda ngamakhadi amanani achanekileyo.
4. Thetha ngokuba mangaphi amaqela eshumi kwaye bangaphi oonye kwinani ngalinye.
5. Xoxani ngexabiso lenani ngalinye.

6. Which apparatus do you think was more appropriate for representing the concepts of 'groups of ten' ('tens') and 'ones'? Explain you answer.

_____
_____
_____
_____

7. What do you notice about the value of the numerals in the numbers you represented with the number cards?

_____
_____
_____
_____

Grade R learners **do not need to understand place value**. They do need to:
♦ understand the value (the 'how muchness') of numbers 0–10
♦ understand the different combinations of numbers up to 10
♦ understand that even though 10 is made up of the numerals 1 and 0, it is NOT 1 + 0 and it has its own value ('how muchness')
♦ understand and be able to represent the different values of 1, 0 and 10.

Facilitator's notes
♦ After **Activity 6**, take feedback from the groups on ideas for teaching the number 10. These could include: - number frieze and story - dot card activities - number washing line - comparing groups of objects - structure beads - number track. ♦ Discuss whether these activities would be suitable for whole class, teacher-guided or small group activities. ♦ Emphasise that when applying the number symbol 10 to a group of objects, learners should use the number symbol card '10' and not number symbol cards '1' and '0'.

Activity 6

1. In your group, discuss ideas for teaching the number 10 in your Grade R classroom. Include the use of different representations.

_____
_____
_____

6. Sesiphi isixhobo ocinga ukuba sifanelekile ukubonisa iikhonsepthi 'zamaqela eshumi' ('amashumi') kunye 'noonye'? Cacisa impendulo yakho.

_____
_____
_____
_____

7. Ingaba uphawula ntoni ngexabiso lamanani kumanani owabonise ngamakhadi amanani?

_____
_____
_____
_____

Abafundi beBanga R **akukafuneki baliqonde ixabiso lendawo**. Koko kufuneka:
♦ baqonde ixabiso ('ubungakanani') lamanani 0–10
♦ baqonde iindibanisela ezahlukeneyo zamanani ukuya kufika ku10
♦ baqonde ukuba nangona i10 lenziwe ngamanani u1 no0, ASINGO 1 + 0 linexabiso lalo ('ubungakanani')
♦ baqonde kwaye bakwazi ukubonisa amaxabiso ahlukeneyo ka1, 0 no10.

Amanqaku ombhexeshi
♦ Emva ko**Msebenzi 6**, thatha ingxelo yeembono zamaqela ezimalunga nokufundisa inanai u10. Oku kungaquka: - ifrizi yamanani nebali   - imisebenzi yamakhadi anamachokoza   - ucingo lokoneka amanani   - ukuthelekisa amaqela ezinto   - amaso okuhlela   - umzila wamanani.   ♦ Xoxani ngokuba le misebenzi iya kuyilungela yonke na imisebenzi yeklasi yonke, ekhokelwa ngutitshala okanye eyamaqela amancinci.   ♦ Gxininisa ukuba xa kusetyenziswa isimboli yenani u10 ukwenza iqela lezinto, abafundi kufuneka basebenzise ikhadi lesimboli yenani u'10' bangasebenzisi amakhadi eesimboli zamanani u'1' no'0'.

👪 **Umsebenzi 6**

1. Kwiqela lakho, xoxani ngeembono zokufundisa inani u10 eklasini yeBanga R. Quka ukusetyenziswa kwemiboniso eyahlukeneyo.

_____
_____
_____

_____

_____

_____

_____

_____

2.   Present your ideas to the whole group.

Introducing number 0

In Grade R, learners need to understand that zero is a number and the number symbol for it is '0'.

Young children find the concept of 'emptiness' difficult to understand. When learners are faced with an empty plate, container, box or bag they will often use words such as 'no more', 'all gone', 'nothing left', 'none' or 'empty' to describe the situation. Teachers should accept these correct descriptions, but should also introduce the word 'zero'. The word 'zero' should be used consistently, even when counting down or backwards, e.g., when counting backwards from four: 'four, three, two, one, zero'. The symbol '0' should be placed on the number washing line. The 0 number cards should be used to represent that an object (such as a plate, tub, lid, box) is empty.

Video 2

Activity Guide: Term 4, Week 3, Day 1 #4 and #5, Day 2 #2 and #4, Day 3 #3, Day 4 #4, Day 5 #4 (pages 56–63)

1.   Watch the video of a teacher introducing and consolidating the concept of zero.
   ♦   What do you see happening?
   ♦   How was the concept of zero introduced?
   ♦   What did the learners do and say?
   ♦   What was the role of the teacher?
   ♦   What was the benefit of using a variety of activities to teach the concept?

2.   Write down your observations.

_____

_____

_____

_____

_____

_____

_____

_____

_____

2.   Bonisa iimbono zakho kwiqela lonke.

Ukwazisa inani u0

KwiBanga R, abafundi kufuneka bamqonde ukuba uziro linani kwaye isimboli yenani yakhe ngu'0'.

Abantwana abancinci bakufumana kunzima ukuqonda ikhonsepthi 'yento engekhoyo'. Xa abafundi bejonge ipleyiti engenanto, isikhongozeli, ibhokisi okanye ibhegi basoloko besebenzisa amagama afana no-'iphelile', 'iphele yonke', 'ayikho eshiyekileyo', 'iphele tu' okanye 'akukho nto' ukuchaza imeko. Ootitshala mabazamkele ezi nkcazelo zichanekileyo, kodwa kufuneka bazise igama u'ziro'. Igama u'ziro' kufuneka lisetyenziswe ngendlela enye engajikajikiyo, naxa sekubalwa ukusuka phezulu okanye ukubuya umva, umz., xa ubala ubuya umva ukusuka kune: 'ne, ntathu, mbini, nye, ziro'. Isimboli u'0' makaxhonywe kucingo lokoneka amanani. Amakhadi amanani u0 mawasetyenziswe ukubonisa ukuba into (efana nepleyiti, isikhongozeli, isiciko, ibhokisi) ayinanto.

📹 Ividiyo 2

1.   Bukelani ividiyo katitshala esazisa ekwadibanisa ikhonsepthi kaziro.
   ♦   Ubona kusenzeka ntoni?
   ♦   Yaziswa njani ikhonsepthi kaziro?
   ♦   Benze ntoni abafundi baza bathini?
   ♦   Ibiyintoni indima katitshala?
   ♦   Lube yintoni uncedo lokusebenzisa imisebenzi ehlukahlukileyo kwikhonsepthi nganye?

2.   Bhala phantsi okuqwalaseleyo.

_____

_____

_____

_____

Facilitator's notes

♦   Discuss the kinds of classroom activities that were used to help learners understand the value of '0', for example:

- adding '0' to the jumping number track and asking what number the learner started on ('no jumps yet')
- counting groups of objects that include 0 objects
- matching empty groups of objects to the '0' number card
- including '0' in the counting sequence (on the number line)
- showing empty hands to represent '0'.

Inqaku lombhexeshi

♦ Xoxa ngeendidi zemisebenzi yaseklasi ebisetyenziswe ukunceda abafundi ukuba baqonde ixabiso lika'0', umzekelo:

- dibanisa u'0' kumzila wokuxhuma wamanani uze ubuze umfundi ukuba uqale kweliphi inani ('akukaqaliswa ukuxhuma')
- ubala amaqela ezinto eziquka izinto ezino0
- utshatisa amaqela ezinto ezingenanto kwikhadi lenani elingu '0'
- uquka u'0' ekubaleni ngolandelelwano (kumgcamanani)
- ukubonisa izandla ezingenanto ukubonisa u'0'.

Session 4: Planning for teaching   1½ hours

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

Facilitator's notes

- ♦ Move between the small groups as participants discuss the planning and preparation for teaching Term 4 Weeks 1–3 in **Activity 7**. Assist them by making suggestions on overcoming challenges.
- ♦ Each small group plans the three weeks and completes the templates in Appendix A.
- ♦ The small groups present their responses to the questions in **Activity 7**. The whole group discusses differentiated teaching and learning.

Activity 7

1. In your group, complete the planning templates for Term 4 Weeks 1–3 (Appendix A).
2. Discuss the following questions:
   - ♦ How is the week structured?
   - ♦ How does the content build on previous lessons?
   - ♦ Do the whole class activities successfully create opportunities for the discussion and exploration of new knowledge?
   - ♦ How does the teacher-guided activity provide opportunities for the teacher to assess and support the learners?
   - ♦ Do the independent small group activities allow for adequate practice of new knowledge and skills?
   - ♦ How could you prepare additional activities to support learners who have not yet mastered a particular skill?
   - ♦ Suggest some ways to extend learning opportunities for advanced learners.
   - ♦ How could you work with a colleague to prepare for each week?

Iseshoni 4: Ukucwangcisela ukufundisa   **1½ iiyure**

Le seshoni yendibano yocweyo ilungiselela abathathinxaxheba ukuba baphumeze iKota 4 iiVeki 1–3. Kwesi sithuba sonyaka, utitshala sele ekuqaphele ukwahluka okubonakalayo phakathi kwamazinga enkqubela yabafundi. IKota 4 yakhela phezu komxholo weeKota 1, 2 no2. Abanye abafundi bazakube bekulungele oku, ngeli lixa abanye besaza kudinga inkxaso kunye nokumanyanisewa kwinkqubela. Kubalulekile ukucwangcisela kwanokukulungiselela oku kwahluka kwizakhono zabafundi ukuqinisekisa ukuba wonke umxholo nobuchule beMathematika yeBanga R wenziwe, kwanokuba abafundi balilungele ngokwaneleyo iBanga 1.

Inqaku lombhexeshi

- ♦ Hambahamba phakathi kwamaqela amancinci ngeli xesha abathathinxaxheba bexoxa ngesicwangciso nolungiselelo lokufundisa iKota 4 iiVeki 1–3 ku**Msebenzi 7**. Bancedise ngokubanika iingcebiso ukuze bakwazi ukukhawulelana nemingeni.
- ♦ Iqela elincinci lenza isicwangciso seeveki ezintathu lenze iithempleyithi ezikwiSingeniso A.
- ♦ Amaqela amancinci abonisa iimpendulo zawo zemibuzo ekuMsebenzi 7. Lonke iqela lixoxa ngokufundisa nokufunda ngokwahlukileyo.

Umsebenzi 7

1. Kwiqela lakho, yenzani iithempleyithi zeKota 4 iiVeki 1–3 (Isingeniso A).
2. Xoxani ngale mibuzo ilandelayo:
   - ♦ Yakhiwe kanjani iveki?
   - ♦ Ingaba umxholo wakhiwe njani kwizifundo ezingaphambili?
   - ♦ Ingaba imisebenzi yeklasi yonke iwenza ngempumelelo amathuba okuxoxa nokuphononga ulwazi olutsha?
   - ♦ Ingaba umsebenzi okhokelwa ngutitshala umnika njani utitshala amathuba okuhlola nokuxhasa abafundi?
   - ♦ Ingaba imisebenzi ezimeleyo yamaqela amancinci iyalinika ithuba elaneleyo lokuziqhelisa ulwazi olutsha nezakhono?
   - ♦ Ungayilungiselela njani imisebenzi eyongezelelweyo ukuxhasa abafundi abangekazibambi kakuhle izakhono ezithile?
   - ♦ Cebisa ezinye iindlela zokwandisa amathuba okufunda kwabafundi asele bephambili.
   - ♦ Ungasebenza njani nomhlobo ukulungiselela iveki nganye?

Closing activities

Facilitator's notes

♦ **Workshop reflection:** Ask participants to take a few minutes to reflect on the day and to page through their *Participant's Workbook*. Ask them to jot down any questions or comments to share with the whole group.

Ask individual participants to volunteer responses to the following:

- I learnt ...

- I did not like ...

- I enjoyed ...

- I now understand ...

- I'm still not clear about ...

- I would like more information on ...

♦ Encourage participants to add any comments and feedback not yet shared to the post box.

♦ **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 8

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

♦ I learnt _____

_____

♦ I did not like _____

_____

♦ I enjoyed _____

_____

♦ I now understand _____

_____

♦ I'm still not clear about _____

_____

♦ I would like more information on _____

_____

Share your reflections with the whole group.

Imisebenzi yokuqukumbela

Inqaku lombhexeshi

♦ **Ucamngco ngendibano yocweyo:** Cela abathathinxaxheba ukuba bathathe imizuzu embalwa ukucamngca ngomhla baze batyhile kw*iNcwadi yokuSebenzela yoMthathinxaxheba*. Bacele ukuba babhale phantsi nayiphi na imibuzo okanye iimbono abaza kwabelana ngazo neqela lonke.
Cela abathathinxaxheba ngabanye ukuba bavolontiye ekuphenduleni le mibuzo ilandelayo:
- Ndifunde …
- Andiyithandanga …
- Ndikonwabele …
- Ngoku ndiyaqonda …
- Andikacacelwa yi-…
- Ndingaluvuyela ulwazi olongezelelekileyo nge-…

♦ Khuthaza abathathinxaxheba ukuba bongeze ezinye izimvo nengxelo ekungekabelwana ngayo kwibhokisi yeposi.

♦ **Umsebenzi ekubuyelwa nawo esikolweni:** Fundisisa lo msebenzi. Buza ukuba ikhona na into engacacanga efuna ukucaciswa banzi.

♦ **Uhlolo:** Gqithisa iikopi zeFomu yokuHlola yeNdibano yoCweyo uze ucele abathathinxaxheba ukuba bayigcwalise.

♦ **Indibano yocweyo elandelayo:** Chaza imihla yendibano yocweyo elandelayo uze uyivale indibano yocweyo.

Umsebenzi 8

Ucamngco ngendibano yocweyo: Thatha imizuzu embalwa ucamngce ngomhla. Tyhila kw*iNcwadi yokuSebenzela yoMthathinxaxheba* uzikhumbuze ngoko kwenziweyo. Bhala phantsi iingcamango zakho.

♦ Ndifunde _____
_____

♦ Andiyithandanga _____
_____

♦ Ndikonwabele _____
_____

♦ Ngoku ndiyaqonda _____
_____

♦ Andikacacelwa yi-_____
_____

♦ Ndingaluvuyela ulwazi olongezelelekileyo nge-_____
_____

Yabelana neqela lonke ngento ubuyicamngca.

! **Take back to school task**

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

Evaluation
Complete the Evaluation Form.

ⓘ Umsebenzi ekubuyelwa nawo esikolweni

1. Sebenzisa *isiKhokelo semiSebenzi: Ikota 4* ukucwangcisa nokusebenza kwiKota 4 iiVeki Iiveki 1–3 zeNkqubo zeMathematika.

2. Bhala izimvo zakho encwadini oyisebenzisela ukugcina inkqubela yomfundi ngamnye (incwadi yoqwalaselo lomfundi). Sebenzisa uluhlu lokuqwalasela luka- **'Qwalasela ukuba abafundi bayakwazi uku-'** (ibhokisi eneliso) ngexesha lemisebenzi ekhokelwa ngutitshala ukukhokela uqwalaselo nezimvo zakho.

3. Yenza amanqaku ngoko kusebenze kakuhle, okungasebenzanga kakuhle nendlela ohlangabezene ngayo nemingeni ngethuba ukuphumeza uKota 4 iiVeki 1–3.

4. KwiNdibano yoCweyo elandelayo yiza nencwadi yakho yoqwalaselo lomfundi namanqaku owenzileyo xa ucamngca ngosuku ngalunye lokufundisa.

Uhlolo

Gcwalisa iFomu yoHlolo.

APPENDIX A: TERM 4 WEEKLY PLANNING TEMPLATE

Term 4: Activity Plan: Week ____

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

ISINGENISO A: ITHEMPLEYITHI YESICWANGCISO SEVEKI NEVEKI KWIKOTA 4

Ikota 4: Isicwangciso semiSebenzi: Iveki _____

INKALO YOMXHOLO:				
ISIHLOKO:				
YAZISA ULWAZI OLUTSHA:				
ZIQHELISE:				
Imisebenzi yeklasi yonke		**Umsebenzi okhokelwa ngutitshala**	**Imisebenzi yesitishi sokusebenzela (imisebenzi ezimeleyo yamaqela amancinci)**	
Usuku 1			**Umsebenzi 1**	
Usuku 2			**Umsebenzi 2**	
Usuku 3			**Umsebenzi 3**	
Usuku 4			**Umsebenzi 4**	
Usuku 5				

Term 4: Activity Plan: Week ____

| CONTENT AREA:		
TOPIC: **INTRODUCE NEW KNOWLEDGE:** **PRACTISE:**		

Whole class activities		Teacher-guided activity	Workstation activities (independent small group activities)	
Day 1			**Activity 1**	
Day 2			**Activity 2**	
Day 3			**Activity 3**	
Day 4			**Activity 4**	
Day 5				

Ikota 4: Isicwangciso semiSebenzi: Iveki ____

INKALO YOMXHOLO:			
ISIHLOKO: **YAZISA ULWAZI OLUTSHA:** **ZIQHELISE:**			
Imisebenzi yeklasi yonke		**Umsebenzi okhokelwa ngutitshala**	**Imisebenzi yesitishi sokusebenzela (imisebenzi ezimeleyo yamaqela amancinci)**	
Usuku 1			**Umsebenzi 1**	
Usuku 2			**Umsebenzi 2**	
Usuku 3			**Umsebenzi 3**	
Usuku 4			**Umsebenzi 4**	
Usuku 5				

Term 4: Activity Plan: Week _____

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

Ikota 4: Isicwangciso semiSebenzi: Iveki ____

| INKALO YOMXHOLO:		
ISIHLOKO:		
YAZISA ULWAZI OLUTSHA:		
ZIQHELISE:		
Imisebenzi yeklasi yonke	**Umsebenzi okhokelwa ngutitshala**	**Imisebenzi yesitishi sokusebenzela (imisebenzi ezimeleyo yamaqela amancinci)**
Usuku 1		**Umsebenzi 1**
Usuku 2		**Umsebenzi 2**
Usuku 3		**Umsebenzi 3**
Usuku 4		**Umsebenzi 4**
Usuku 5		

APPENDIX B: THE GUIDING PRINCIPLES OF TEACHING MATHS IN GRADE R (PICTURES)
ISINGENISO B: IMIGAQO EKHOKELAYO YOKUFUNDISA IMATHEMATIKA KWIBANGA R (IMIFANEKISO)

10
20
30
40

1	2
3	4
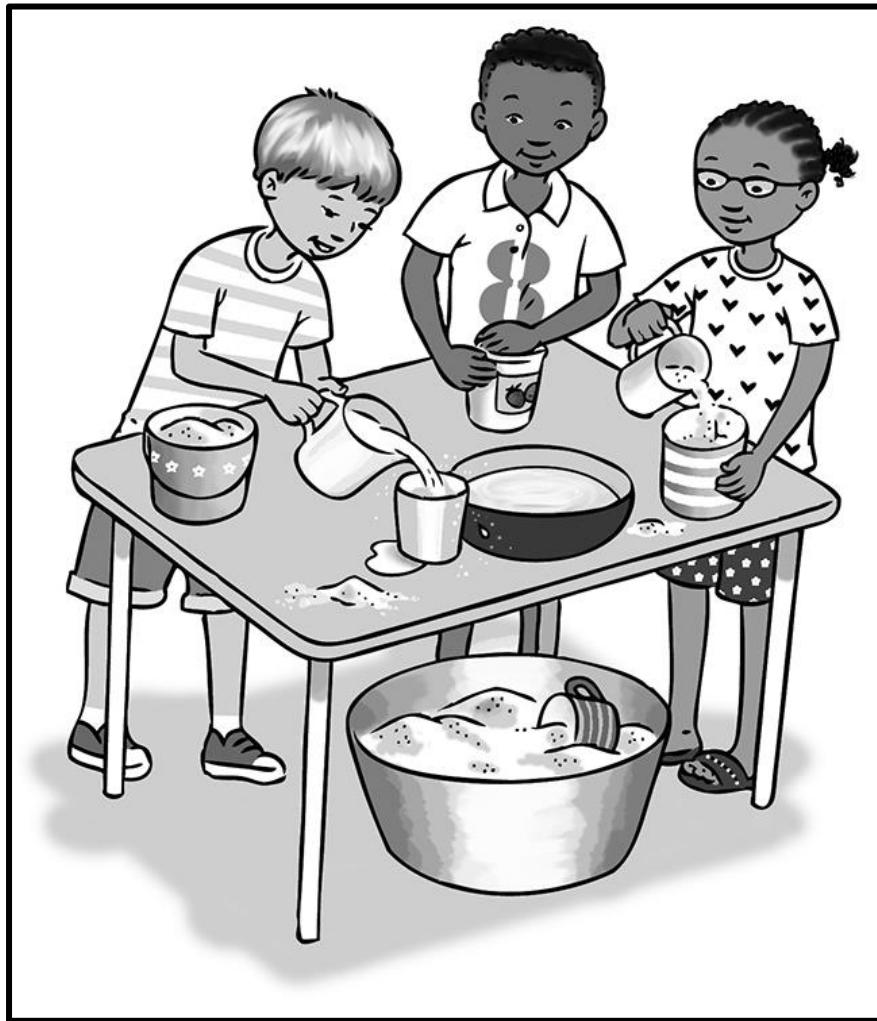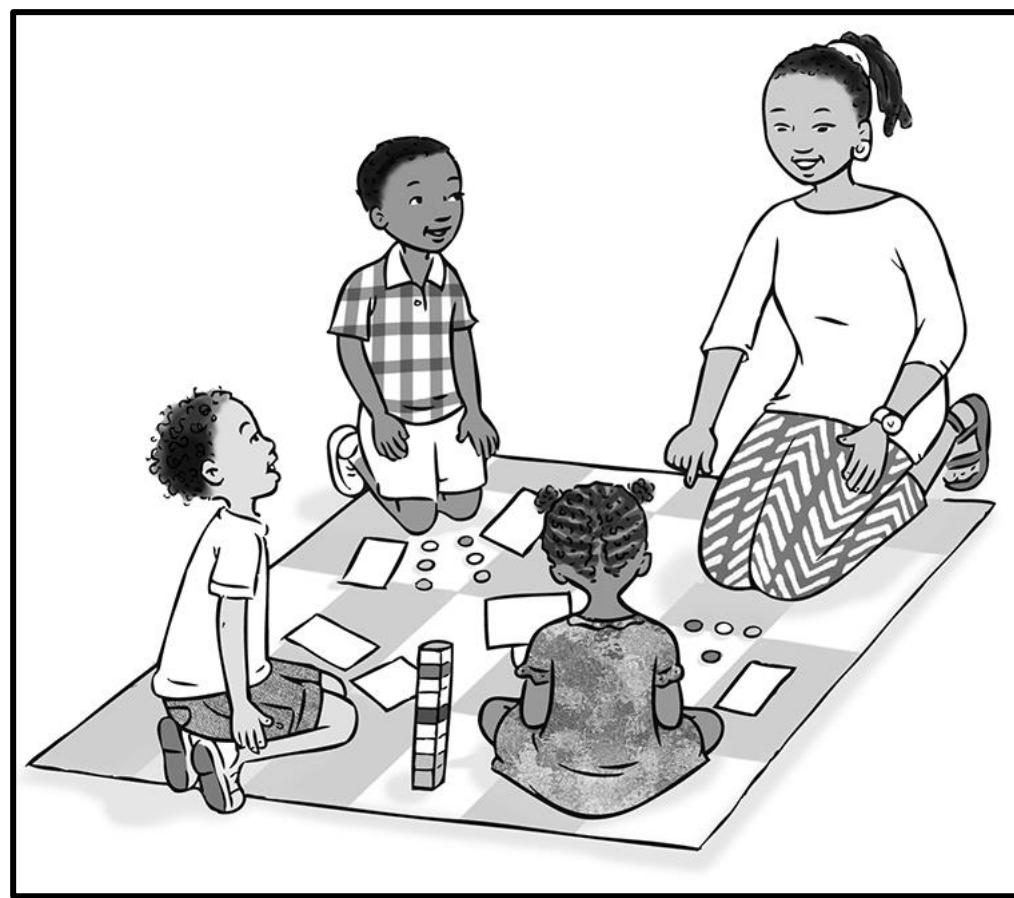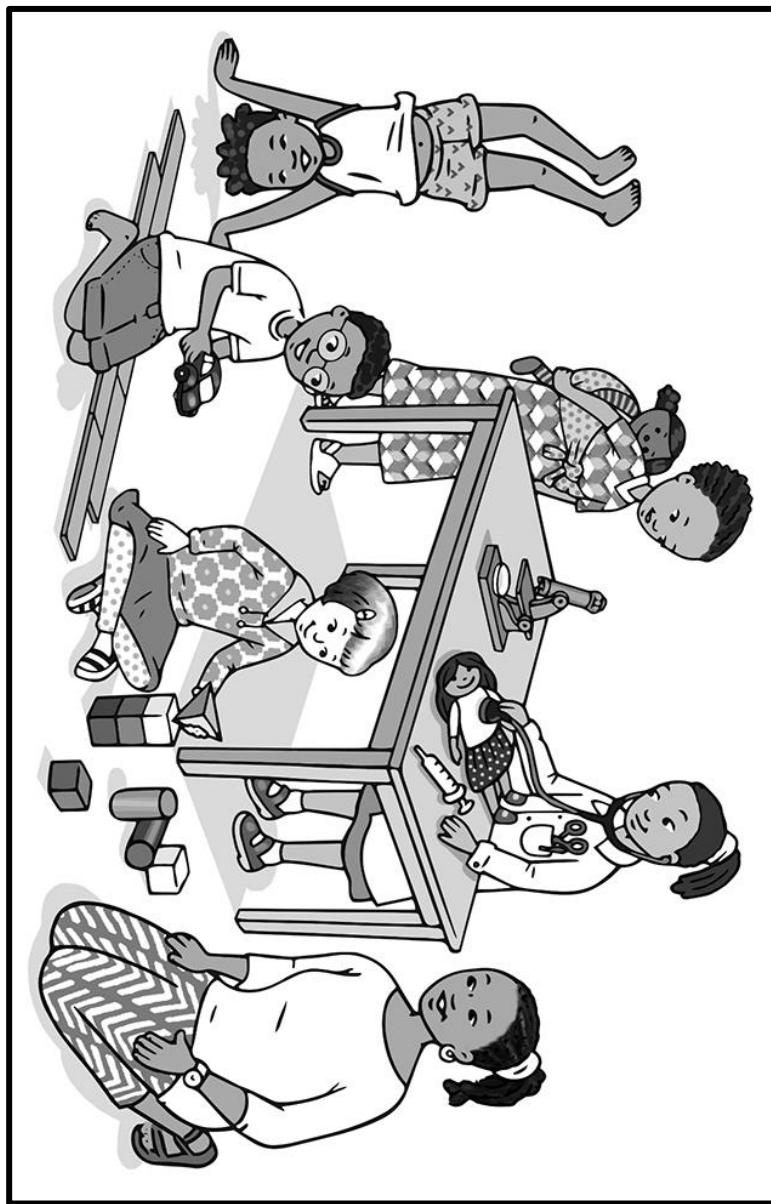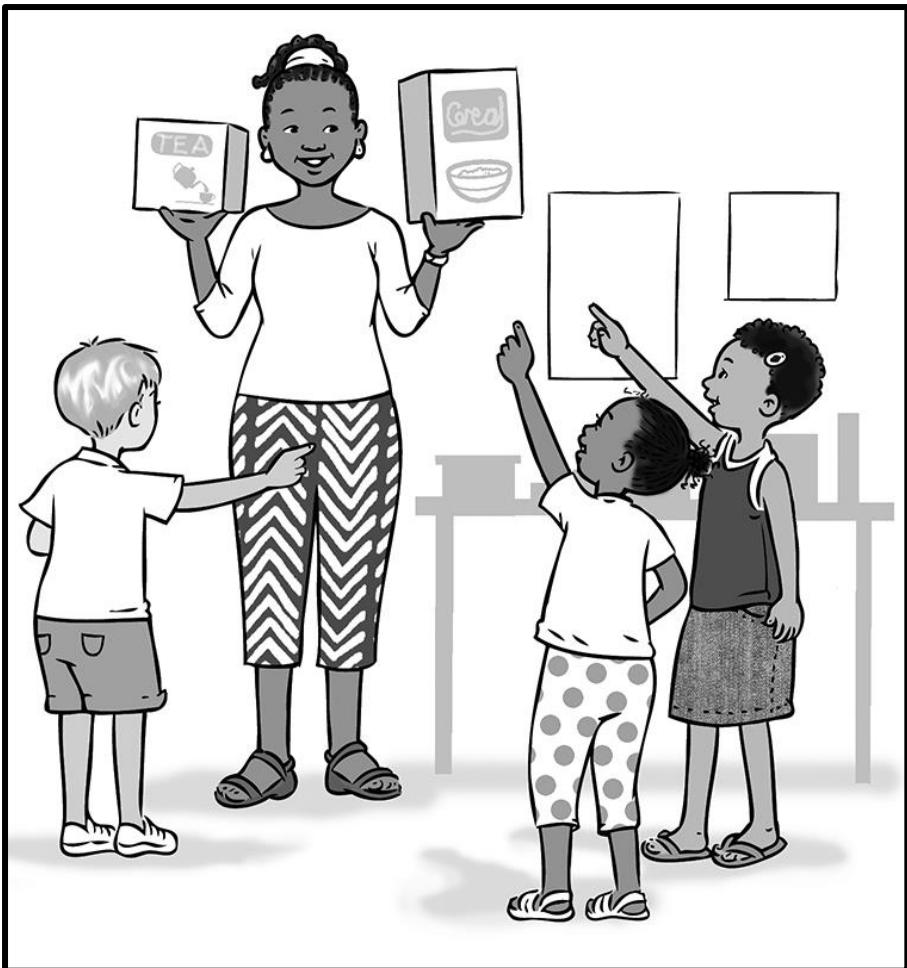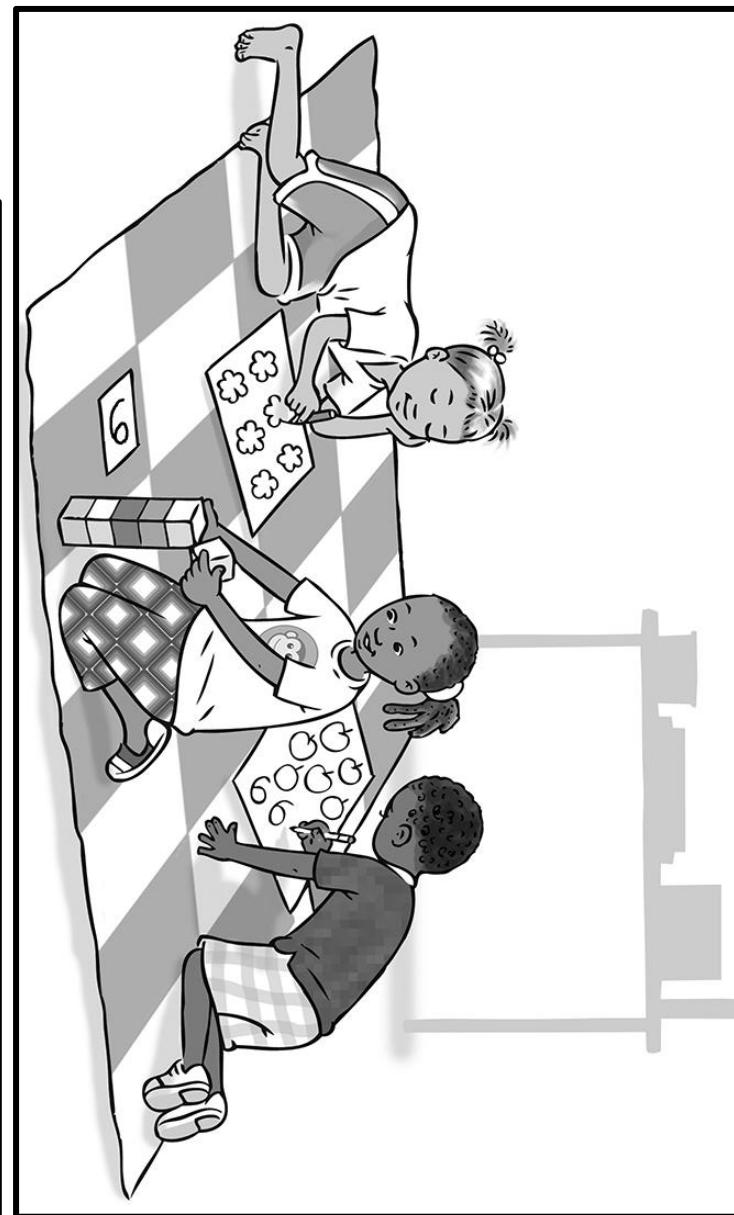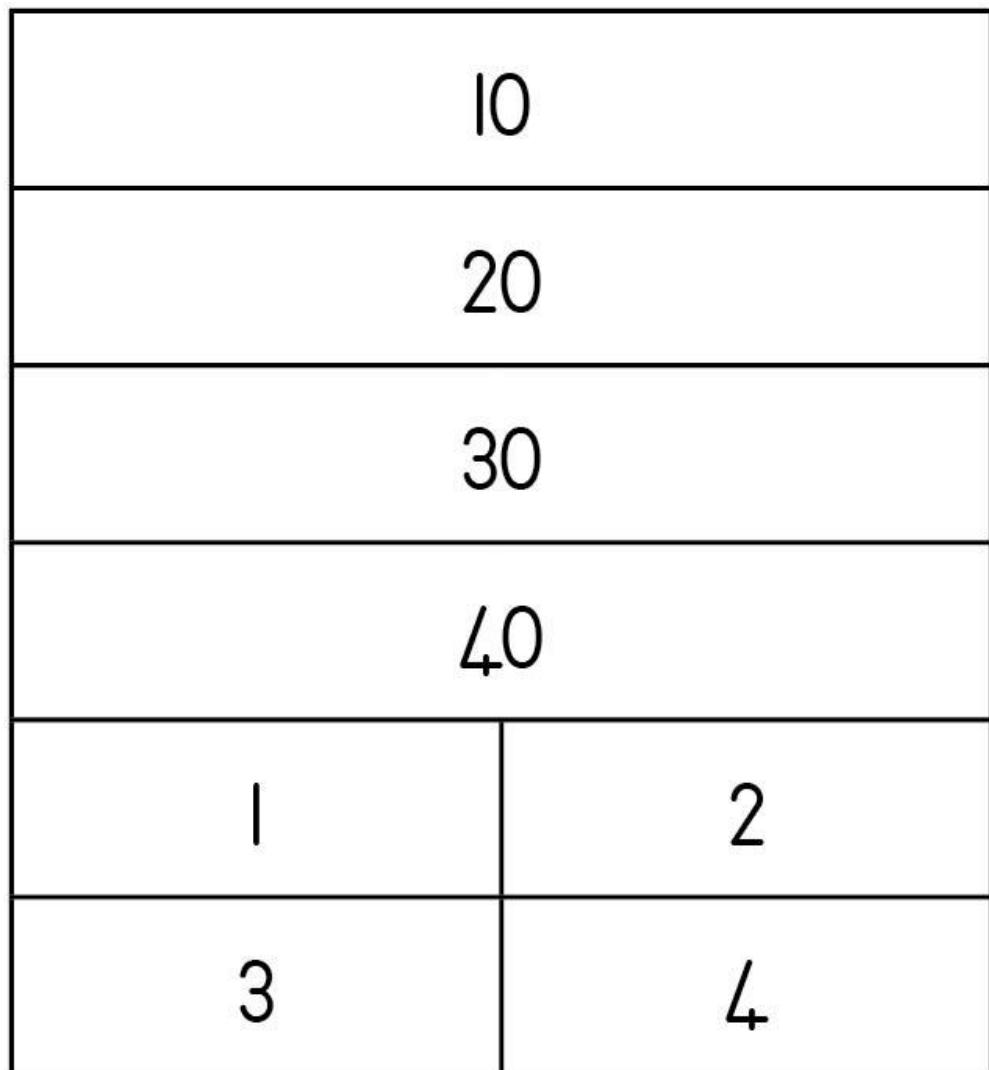
ISINGENISO C: AMAKHADI OCAZULULO LWAMANANI NGOKOBHALO

10
20
30
40

1	2
3	4

Workshop 10 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 10

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?

_____
_____
_____
_____