Tshivenḓa/English

Mbekanyamushumo ya u Khwinifhadza Mbalo dza Gireidi ya Ṱ Grade R Mathematics Improvement Programme

Wekishopo ya 9 ● Workshop 9

Bugu ya Mushumo ya Vhashelamulenzhe ● Participant's Workbook

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NDIVHUHO
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- Tshigwada tsha vhaṅwali vha R-Maths: vhashumi vha SDU na vhaeletshedzi.

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Overview

Purpose

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

The purpose of this workshop is to 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 3 Weeks 7–10 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 4–6
- To explore play-based strategies to support teaching maths in Grade R
- To deepen understanding of number concept in the Numbers, Operations and Relationships Content Area and to link these to the implementation of maths in the Grade R classroom
- To deepen understanding of appropriate 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 3 Weeks 7–10

Workshop content

- Opening and reflection   (1 hour)
- Session 1: Numbers, Operations and Relationships   (1 hour)

TEA

- Session 2: Numbers, Operations and Relationships (continued)   (1 hour)
- Session 3: Calculation in Grade R   (1 hour)

LUNCH

- Session 4: Planning for teaching   (1½ hours)
- Closing activities   (30 minutes)

Manweledzo

Ndivho

Iyi ndi wekishopo ya vhuṱahe kha dza fumimbili dza Mbekanyamushumo ya u Khwinifhadza Mbalo dza Gireidi ya Ṱ ine ya vhumba tshipiḓa tsha Muhasho wa Pfunzo wa Gauteng (GDE) Mbalo dza Gireidi ya Ṱ na Thandela ya u Khwinisa Dzinyambo.

Ndivho ya wekishopo iyi ndi u thusa vhagudisi u thoma Mbekanyamushumo ya Mbalo ngomu kiḽasirumuni dzavho. Vhashelamulenzhe vha ḓo vha na tshikhala tsha u amba nga u thoma havho Mbekanyamushumo ya Mbalo na u haseledza u pulana havho, u funza na u linga. Vha ḓo dovha hafhu vha sedza mvelaphanḓa ya vhagudi, na ṱhoḓea dza u guda na mveledziso dza mugudi nga eṱhe. Vhashelamulenzhe vha ḓo amba nga maano a u linga u itela u ṅwala mvelaphanḓa ya vhagudi. Wekishopo i tandula magudiswa a Kotara ya 3 Vhege ya 7–10 na u thomiwa hadzo

U referentsiwa kha Sia ḽa Magudiswa ḽa Mbalo dza Gireidi ya Ṱ zwo dzhiwa kha *Tshitatamennde tsha Phoḽisi tsha Kharikhuḽamu na u Linga* (*TSHIPHOKHALI): Mbalo dza Gireidi ya Ṱ (Mvetamveto ya u Fhedzisela)*, 2011, Muhasho wa Pfunzo ya Mutheo, Afrika Tshipembe.

Mvelelo dza u guda

♦ U humbula nga u thomiwa ha Kotara ya 3 Vhege ya 4–6
♦ U tandula maano o ḓisendekaho kha u tamba u itela u tikedza u funza mbalo kha Gireidi ya Ṱ
♦ U khwaṱhisedza kupfesesele kwa ḓivhaipfi ya nomboro kha Sia ḽa Magudiswa ḽa Nomboro, Tswayo na Vhushaka na u ṱumanya izwi na u thoma mbalo kiḽasini ya Gireidi ya Ṱ
♦ U khwaṱhisedza kupfesesele kwa u linga ho teaho kha Gireidi ya Ṱ
♦ U amba nga dzikhaedu na u wana thandululo dza u thoma Mbekanyamushumo ya Mbalo
♦ U pulana magudiswa a Mbekanyamushumo ya Mbalo ane a ḓo funzwa kha Kotara ya 3 Vhege ya 7–10

Magudiswa a wekishopo

♦ Mvulatswinga na mihumbulo   (Awara 1)
♦ Dzulo ḽa 1: Nomboro, Tswayo na Vhushaka   (Awara 1)
TIE
♦ Dzulo ḽa 2: Nomboro, Tswayo na Vhushaka (u bvela phanḓa)   (Awara 1)
♦ Dzulo ḽa 3: U rekanya kha Gireidi ya Ṱ   (Awara 1)
TSHISWIṰULO
♦ Dzulo ḽa 4: U pulanela u funza   (Awara 1½)
♦ Nyito dza u vala   (Minetse ya 30)

Opening and reflection

Reflection involves thinking and talking about your experiences and what you have learnt. Consider the Maths workshops you have attended and complete the sentences the facilitator displays.

Reflection on implementation

The *Take back to school task* from Workshop 8, required you to do the following:

♦ Use *Activity Guide: Term 3* to plan and implement Term 3 Weeks 4–6 of the Maths Programme.

♦ Write comments in the book that you use to keep track of each learner's progress (learner observation book), and use the **'Check that learners are able to'** observation list during each of the teacher-guided activities to guide your observations and comments.

♦ Make notes of what worked well, what did not work well and how you resolved any challenges during your implementation of Term 3 Weeks 4–6.

In the next activities make use of your learner observation book and the notes you made when reflecting on each day's teaching.

Activity 1

1. In your group, share your successes and challenges with implementing the Maths Programme in Term 3 Weeks 4–6. Share strategies for improving teaching and learning for the challenges you identified.

_____
_____
_____

2. Discuss your use of the **'Check that learners are able to'** observation list (in the eye box) during each of the teacher-guided activities.
   Show members of your group your learner observation book.
   Select one learner and discuss your observations of this learner's progress.

_____
_____
_____

Mvulatswinga na mihumbulo

Mvulatswinga i katela u humbula na u amba nga tshenzhemo yavho na zwe vha guda. Kha vha sedze wekishopo dza Mbalo dze vha dzhenela vha fhedzise mafhungo ane mutshimbidzi a ḓo ṱana.

U amba nga u thoma

Mushumo wa u ṱuwa nawo tshikoloni u bva kha Wekishopo ya 8, wo vha u tshi khou ṱoḓa vha tshi ita zwi tevhelaho:

♦ Kha vha shumise *Nyendedzi ya Nyito: Kotara ya 3* u pulana na u thoma Kotara ya 3 Vhege ya 4–6 dza Mbekanyamushumo ya Mbalo.

♦ Kha vha ṅwale mahumbulwa buguni ine vha i shumisa u itela u sedza mvelaphanḓa ya mugudi muṅwe na muṅwe (bugu ya u lavhelesa vhagudi), vha shumise mutevhe wa u lavhelesa wa **'Kha vha ṱole uri vhagudi vha a kona u'** nga tshifhinga tsha nyito dzo rangwaho phanḓa nga mugudisi dziṅwe na dziṅwe u itela u endedza u lavhelesa havho na mahumbulwa.

♦ Kha vha ite notsi dza zwe zwa shuma zwavhuḓi, zwe zwa si shume zwavhuḓi na uri vho tandulula hani dzikhaedu dziṅwe na dziṅwe nga tshifhinga tsha u thoma havho Kotara ya 3 Vhege ya 4–6.

Kha nyito dzi tevhelaho kha vha shumise bugu ya u lavhelesa vhagudi na notsi dze vha ita musi vha tshi amba nga ḓuvha ḽiṅwe na ḽiṅwe ḽa u funza.

Nyito ya 1

1. Tshigwadani tshavho, kha vha kovhane zwe zwa shuma zwavhuḓi na dzikhaedu musi vha tshi khou thoma Mbekanyamushumo ya Mbalo kha Kotara ya 3 Vhege ya 4–6. Kha vha kovhane maano a u khwinisa u funza na u guda a dzikhaedu dze vha topola.

_____
_____
_____

2. Kha vha haseledze tshumiso yavho ya mutevhe wa u lavhelesa wa **'Kha vha ṱole uri vhagudi vha a kona u'** (kha iṱo tshibogisini) nga tshifhinga tsha nyito dzo rangwaho phanḓa nga mugudisi dziṅwe na dziṅwe.
Kha vha sumbedze miraḓo ya tshigwada tshavho bugu yavho ya u lavhelesa vhagudi.
Kha vha nange mugudi muthihi vha haseledze zwe vha lavhelesa nga mvelaphanḓa ya uyu mugudi.

_____
_____
_____

_____
_____
_____

3. Write the main points of your discussion on flipchart paper. Report back on your discussion to the large group.

📹 Video 1

Watch the video of a teacher working with a small group of learners during the teacher-guided activity in Term 3 Week 6. The focus of our observation in this workshop is on how the teacher mediates the number activities.

Observe how the teacher works through the six activities. Notice:
♦ how she poses problems
♦ the language she uses when asking questions
♦ how she sets up each activity
♦ the questions she asks to guide the learners.

_____
_____
_____
_____
_____
_____
_____
_____

👥 Activity 2

Refer to the teacher-guided activity (pages 114–117) in Week 6 of *Activity Guide: Term 3*.

1. Discuss how you managed this teacher-guided activity with your class.

_____
_____
_____

2. Did you face any challenges? If so, how did you solve them?

_____
_____
_____

_____
_____
_____

3. Kha vha ṅwale mbuno khulwane dza khaseledzo yavho kha bammbiri ḽa fiḽipitshati. Kha vha vhigele murahu khaseledzo yavho kha tshigwada tshihulwane.

🎥 Vidiyo ya 1

Kha vha ṱalele vidiyo ya mugudisi a tshi khou shuma na tshigwada tshiṱuku tsha vhagudi nga tshifhinga tsha nyito yo rangwaho phanḓa nga mugudisi kha Kotara ya 3 Vhege ya 6. Zwo sedzeswaho nga u lavhelesa havho kha wekishopo iyi ndi uri mugudisi u lamukanya hani nyito dza nomboro.

Kha vha lavhelese uri mugudisi u shuma hani nga nyito dza rathi. Vha dzhiele nzhele:
♦ uri u ḓivhadza hani thaidzo
♦ luambo lune a lu shumisa musi a tshi vhudzisa mbudziso
♦ uri u dzudzanya hani nyito
♦ mbudziso dzine a vhudzisa u endedza vhagudi.

_____
_____
_____
_____
_____
_____
_____
_____
_____

👥 Nyito ya 2

Kha vha sedze nyito ya rangwaho phanḓa nga mugudisi (masiaṱari a 114–117) kha Vhege ya 6 ya *Nyendedzi ya Nyito: Kotara ya 3*.

1. Kha vha haseledze uri vho langisa hani nyito iyi yo rangwaho phanḓa nga mugudisi na kiḽasi yavho.

_____
_____
_____

2. Vho vhuya vha ṱangana na dzikhaedu? Arali zwo ralo, vho dzi tandululisa hani?

_____
_____
_____

Session 1: Numbers, Operations and Relationships

1 hour

In previous workshops we have discussed the Numbers, Operations and Relationships Content Area. In this session we will revisit different number topics and expand our discussion to further understand number concept. We will explore the following aspects of number and connect them to classroom practice:

♦   oral counting
♦   subitising
♦   representing number
♦   counting objects
♦   ordinal numbers
♦   calculating.

Oral counting

Children learn the correct order of number words as they play, sing, and repeat rhymes.

As we know, oral counting involves saying the number words in order. Learners sequence numbers during routine oral counting activities and during transitions. Songs, rhymes and actions make oral counting fun, but the focus is on the order of the numbers. Once learners can repeat a sequence of numbers in the correct counting order, they begin to talk about the relationship between the numbers, e.g., which number is *before*, *between* or *after* another number.

Activity 3

In your group, discuss how the following activities have promoted learning the sequence of counting words in your class:

♦ songs and rhymes
♦ number washing line
♦ jumping tracks.

_____
_____
_____
_____
_____

Dzulo ḽa 1: Nomboro, Tswayo na Vhushaka Awara 1

Kha wekishopo dzo fhiraho ro haseledza nga Sia ḽa Magudiswa ḽa Nomboro, Tswayo na Vhushaka. Kha dzulo iḽi ri ḓo dalela hafhu thero dza nomboro dzo fhambanaho nahone ri ḓo ṱanḓavhudza khaseledzo yashu u itela u pfesesa u ya phanḓa na ḓivhaipfi ya nomboro. Ri ḓo tandula masia a tevhelaho a nomboro na u a ṱumanya na nḓowelo ya kiḽasini:

♦   u vhalela ha mutevhetsindo
♦   u anganyela
♦   u imela nomboro
♦   u vhalela zwithu
♦   nomboro thevhekano
♦   u rekanya.

U vhalela ha mutevhetsindo

Vhana vha guda mutevhe wo teaho wa maipfinomboro zwenezwi vha tshi khou tamba, u imba, na u dovholola zwidade.

Vhunga ri tshi zwi ḓivha, u vhalela ha mutevhetsindo zwi katela u bula maipfinomboro nga u tevhekana. Vhagudi vha tevhekanya nomboro nga tshifhinga tsha nḓowelo ya nyito dza u vhalela ha mutevhetsindo na nga tshifhinga tsha miratho. Nyimbo, zwidade na nyito zwi ita uri u vhalela ha mutevhetsindo hu ḓifhe, fhedzi ho sedzeswa kha mutevhe wa nomboro. Musi vhagudi vha tshi vho kona u dovholola u tevhekana ha nomboro nga mutevhe wo teaho wa u vhalela, vha thoma u amba nga vhushaka vhukati ha nomboro, sa tsumbo, ndi nomboro ifhio i re *phanḓa ha*, *vhukati ha* kana *i re murahu ha* iṅwe nomboro.

Nyito ya 3

Tshigwadani tshavho, kha vha haseledze uri nyito dzi tevhelaho dzo ṱuṱuwedza hani u guda u tevhekana ha u vhalela maipfi kiḽasini yavho:
♦ nyimbo na zwidade
♦ muthambi wa u anea nomboro
♦ ḽeri dza u fhufha.

_____
_____
_____
_____
_____

Activity 4

Read the information on pages 138–143 and look at the diagram at the top of pages 144–145 of the *Concept Guide*.

In your group, discuss the following aspects of number:

♦ different 'meanings' of number

_____
_____
_____
_____

♦ different kinds of numbers

_____
_____
_____
_____

Learners in Grade R work mostly with the whole numbers 0, 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10. (In Grade 1 this is extended to 20 and beyond.) We focus on counting and representing number in different ways and provide opportunities for learners to engage with numbers in different contexts.

Subitising

Activity 5

Observe the facilitator. Each time she/he flashes a card, say as quickly as you can 'how many' dots you see.

1. Did you count each dot one by one? Why not?

_____
_____
_____
_____

2. What do you think the benefit is of reinforcing the skill of subitising?

_____
_____
_____
_____

Nyito ya 4

Kha vha vhale mafhungo a re kha masiaṱari a 138–143 vha lavhelese nyolo i re nṱha ha masiaṱari a 144–145 a *Nyendedzi ya Ḓivhaipfi*.

Tshigwadani tshavho, kha vha haseledze masia a tevhelaho a nomboro:

♦ 'ṱhalutshedzo' dzo fhambanaho dza nomboro

_____
_____
_____
_____

♦ tshakha dzo fhambanaho dza nomboro

_____
_____
_____
_____

Vhagudi vha re kha Gireidi ya Ṱ vha anzela u shuma nga mbalosia 0, 1, 2, 3, 4, 5, 6, 7, 8, 9 na 10. (Kha Gireidi ya 1 izwi zwi engedzwa u ya kha 20 na u fhira.) Ri sedzesa kha u vhalela na u imela nomboro nga nḓila dzo fhambanaho na u ṋetshedza vhagudi zwikhala zwa u shuma na nomboro kha nyimele dzo fhambanaho.

U anganyela

Nyito ya 5

Kha vha lavhelese mutshimbidzi. Tshifhinga tshoṱhe a tshi sumbedza garaṱa, kha vha ambe nga u ṱavhanya nga hune vha nga kona uri vha khou vhona zwithoma 'zwingana'.

1. Vho vhalela tshithoma tshiṅwe na tshiṅwe nga tshithihitshithihi? Ndi ngani zwi songo ralo?

_____
_____
_____
_____

2. Vha humbula uri mbuelo ya u khwaṱhisedza tshikili tsha u anganyela ndi ifhio?

_____
_____
_____
_____

3. What activities that reinforce the ability to subitise have you used in your Term 1 and 2 maths sessions?

_____
_____
_____
_____

Refer to pages 144–147 of the *Concept Guide*.

Representing number

A number is an abstract concept. It is an idea that exists in your head. We can't see numbers, so we have to find different ways to represent (show) the number that is being referred to. Learners need to make the connection between the idea of a number, e.g., 5, and its different representations, like a collection of objects, a symbol, a word. They also need to understand that if we say, 'how many' sweets, claps, houses, birthdays, etc., five always refers to the same number of these things.

Learners need to internalise the 'how muchness' or numerosity of the number. To communicate this concept to learners, teachers need to introduce the idea using concrete objects, for example, counters. To help learners understand the concept of a number, they need to realise that numbers can be represented in different ways. Learners also need to make the connection between different representations of the number, for example an object, picture, symbol and word.
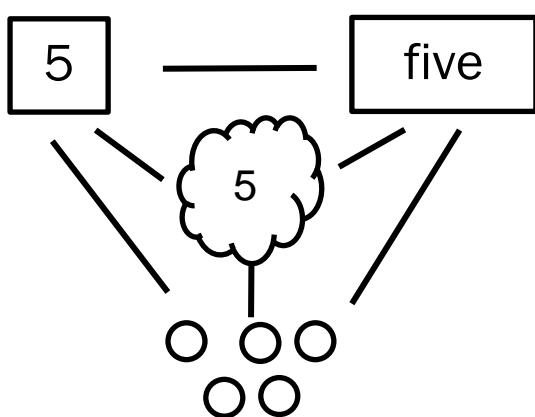
3. Ndi nyito dzifhio dzine dza khwaṱhisedza vhukoni ha u anganyela dze vha dzi shumisa kha madzulo a mbalo a Kotara ya 1 na 2 dzavho?

_____
_____
_____
_____

Kha vha sedze masiaṱari a 144–147 a *Nyendedzi ya Ḓivhaipfi*.

U imela nomboro

Nomboro ndi ḓivhaipfi khumbulelwa. Ndi muhumbulo une wa vha hone ṱhohoni yavho. A ri koni u vhona nomboro, zwenezwo ri fanela u wana nḓila dzo fhambanaho dza u imela (u sumbedza) nomboro ine ha khou ambiwa ngayo. Vhagudi vha fanela u ita vhuṱumani vhukati ha muhumbulo wa nomboro, sa tsumbo, 5, na u imelwa hayo ho fhambanaho, u fana na khuvhanganyo ya zwithu, tshiga, ipfi. Vha fanela hafhu u pfesesa uri arali ra ri, 'ndi mangana' maḽegere, u vhanda zwanḓa, nnḓu, maḓuvha a mabebo, ngauralongauralo, ṱhanu tshifhinga tshoṱhe i amba tshivhalo tshi fanaho tsha zwithu izwi.

Vhagudi vha fanela u rwela ngomani 'uri zwithu ndi zwingana' kana u vhalela khuvhanganyo i sa fareiho na i fareaho ya nomboro. U fhirisela ḓivhaipfi iyi kha vhagudi, vhagudisi vha fanela u ḓivhadza muhumbulo vha tshi shumisa zwithu zwi fareaho, sa tsumbo, zwithu zwa u vhalela ngazwo. U thusa vhagudi uri vha pfesesa ḓivhaipfi ya nomboro, vha fanela u zwi limuwa uri nomboro dzi nga imelwa nga nḓila dzo fhambanaho. Vhagudi vha fanela hafhu u ita vhuṱumani vhukati ha u imela nomboro ho fhambanaho, sa tsumbo, tshithu, tshifanyiso, tshiga na ipfi.
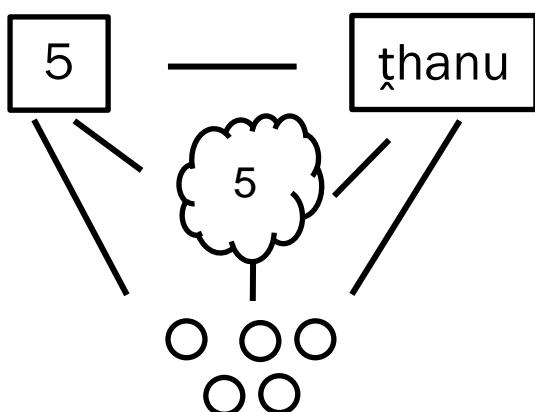
Session 2: Numbers, Operations and Relationships (continued) 1 hour

Counting objects

To count '**how many**', learners need to realise that each object in a group has a number name and that you count each object only once.

There are five counting principles that describe the process of learning to count. Once learners have understood and can apply all five of these counting principles, we are able to say that they can count.

Activity 6

Read the information on pages 148–151 of the *Concept Guide*.

1. Use the apparatus provided to demonstrate these principles as they are explained in the *Concept Guide*.
2. Discuss each principle in your group and make your own notes in the table below to explain your understanding of each principle.

One-to-one correspondence principle	
Stable order principle	
Cardinal principle	
Abstraction principle	
Order-irrelevance principle	

Dzulo ḽa 2: Nomboro, Tswayo na Vhushaka (u bvela phanḓa)

U vhalela zwithu

U vhalela uri '**ndi zwingana**', vhagudi vha fanela u limuwa uri tshithu tshiṅwe na tshiṅwe tshi re kha tshigwada tshi na dzina ḽa nomboro na uri vha vhalela tshithu tshiṅwe na tshiṅwe luthihi fhedzi.

Hu na milayo miṱanu ya u vhalela ine ya ṱalusa maitele a u guda u vhalela. Musi vhagudi vho no pfesesa na u kona u shumisa milayo iyi ya u vhalela yoṱhe miṱanu, ri a kona u amba uri vha a kona u vhalela.

👥 Nyito ya 6

Kha vha vhale mafhungo a re kha masiaṱari a 148–151 a *Nyendedzi ya Ḓivhaipfi*.

1. Kha vha shumise zwishumiswa zwo ṋewaho u sumbedza milayo iyi sa zwe ya ṱalutshedziswa zwone ngomu ha *Nyendedzi ya Ḓivhaipfi*.
2. Kha vha haseledze mulayo muṅwe na muṅwe tshigwadani tshavho vha ite notsi dzavho kha thebuḽu i re afho fhasi u itela u ṱalutshedza kupfesesele kwavho kwa mulayo muṅwe na muṅwe.

Mulayo wa u livhanyisa tshithu nga tshithu	
Mulayo wa u vhalela na vhunzhi	
Mulayo wa nomboro ya u vhalelwa lwa u fhedza	
Mulayo wa u vhalela khuvhanganyo i fareaho na i sa farei	
Mulayo wa u sa vha na ndeme ya u tevhekana	

Ordinal numbers

We have discussed the kinds of numbers that tell you 'how many'. These are called **cardinal numbers**.

There are also numbers that indicate the position of something or someone in a series or order. These are called **ordinal numbers**.

Activity 7

Arrange the animal counters on your table according to the facilitator's instructions. Answer her/his questions about the position of the animal counters.

_____
_____
_____
_____

Nomboro thevhekano

Ro haseledza tshakha dza nomboro dzine dza ri vhudza uri 'ndi zwingana'. Idzi dzi vhidzwa **nomboro dza u vhalelwa lwa u fhedza**.

Hu dovha hafhu ha vha na nomboro dzine dza sumbedza vhuimo ha tshithu kana muṅwe muthu kha tsielano kana mutevhe. Idzi dzi vhidzwa **nomboro thevhekano**.

Nyito ya 7

Kha vha dzudzanye zwithu zwa u vhalela ngazwo zwa phukha zwi re kha ṱafula u ya nga ndaela dza mutshimbidzi. Kha vha fhindule mbudziso dzawe nga vhuimo ha zwithu zwa u vhalela ngazwo zwa phukha.

_____
_____
_____
_____

Session 3: Calculation in Grade R   1 hour

Learners need to understand the value of numbers and the relationships between them before they can do operations like addition and subtraction. They need to know, for example, 'how many' three is; 3 comes before 4, after 2 and between 2 and 4; and 3 is one more than 2 and one less than 4.

Working with counters, structure beads, dot cards, and the shake-and-break game provides opportunities for learners to understand that numbers can be built up or broken down. In this way, they gradually recognise that any number is made up of many different combinations of other numbers. For example, number 5 can be made up of:

♦   4 and 1
♦   1 and 1 and 1 and 2
♦   0 and 5.

In Grade R, learners explore different ways of building up and breaking down numbers, and adding and subtracting using counters.

Activity 8

Read the information on pages 154–156 of the *Concept Guide*.

Think about how you have used the materials provided in the Maths Programme to help learners understand number operations (calculations) and relationships. Use the materials to demonstrate this.

1.   How do learners explore the concept of number in the Maths Programme using the materials provided?

2.   What questions could you ask that would guide their learning? (Refer to page 156 of the *Concept Guide* for examples of questions.)

_____
_____
_____
_____

Prepare to present your discussion to the whole group.

Dzulo ḽa 3: U rekanya kha Gireidi ya Ṱ

Vhagudi vha fanela u pfesesa ndeme ya nomboro na vhushaka vhukati hadzo vha sa athu shuma mbalo u fana na u ṱanganya na u ṱusa. Vha fanela u ḓivha, sa tsumbo, 'ndi nngana' tharu dzi re hone; 3 i ḓa phanḓa ha 4, nga murahu ha 2 na vhukati ha 2 na 4; na uri 3 i i fhira 2 nga nthihi na u vha ṱhukhu kha 4 nga nthihi.

U shuma nga mutambo wa zwithu zwa u vhalela ngazwo, vhulungu ha u vhalela, magaraṱa a tshithoma, na u dzinginya na u kwasha zwi ṋetshedza vhagudi zwikhala zwa u pfesesa uri nomboro dzi nga fhaṱiwa kana dza kwashiwa. Nga nḓila iyi, nga zwiṱuku vha thoma u ḓivha uri nomboro dzo itwa nga phaṱhekhanyo nnzhi dzo fhambanaho dza dziṅwe nomboro. Sa tsumbo, nomboro 5 i nga vhumbwa nga:

♦ 4 na 1
♦ 1 na 1 na 1 na 2
♦ 0 na 5.

Kha Gireidi ya Ṱ, vhagudi vha tandula nḓila dzo fhambanaho dza u fhaṱa na u kwasha nomboro, na u ṱanganya na u ṱusa vha tshi shumisa zwithu zwa u vhalela ngazwo.

👥 Nyito ya 8

Kha vha vhale mafhungo a re kha masiaṱari a 154–156 a *Nyendedzi ya Ḓivhaipfi*.

Kha vha humbule nga uri vho shumisa hani matheriala o ṋetshedzwaho kha Mbekanyamushumo ya Mbalo u thusa vhagudi u pfesesa kushumele kwa nomboro (murekanyo) na vhushaka. Kha vha shumise matheriala u sumbedza izwi.

1. Vhagudi vha tandula hani ḓivhaipfi ya nomboro kha Mbekanyamushumo ya Mbalo vha tshi shumisa matheriala o ṋetshedzwaho?

2. Ndi mbudziso dzifhio dzine vha nga vhudzisa dzine dza ḓo endedza u guda havho? (Kha vha sedze siaṱari ḽa 157 ḽa *Nyendedzi ya Ḓivhaipfi* u itela tsumbo dza mbudziso.)

_____
_____
_____
_____

Kha vha ḓilugisele u kumedza khaseledzo yavho kha tshigwada tshihulwane.

Word problems

Grade R learners need to orally solve word problems involving addition, subtraction, and equal sharing and grouping. They also need to explain their own reasoning and ways of solving different problems.

Give learners plenty of time to think and let them use real objects (e.g. counters, fingers, structure beads) to solve the problems and check their answers.

When presenting a word problem to learners, it is important to encourage them to:
♦ find a strategy to solve the problem
♦ explain how they solved the problem
♦ say why they think their answer is correct.

Common addition and subtraction contexts can be presented as word problems. The way that the word problem is structured, determines how easy or difficult it is to solve. It is important to use clear, simple language when presenting word problems.

In Workshop 6 we looked at the importance of using clear, simple language and asking appropriate questions during problem-solving activities. We also designed real-world problems in contexts that learners could relate to. In Activity 9, you will discuss problem solving in more detail.

Activity 9
1. Look at the word problems below (page 26).
♦ How would you solve each problem?
♦ How do you think your Grade R learners would solve each problem?
♦ Why are some of these problems more difficult than others?
♦ Use the counters on your table to show how learners would solve the problems.

Thaidzo dza ipfi

Vhagudi vha Gireidi ya Ṱ vha fanela u tandulula thaidzo dza ipfi nga u tou amba hu tshi katelwa u ṱanganya, u ṱusa, na u kovha u eḓana na u vhea nga zwigwada. Vha fanela hafhu u ṱalutshedza kuhumbulele kwavho na nḓila dza u tandulula thaidzo dzo fhambanaho.

Kha vha ṋee vhagudi tshifhinga tshinzhi tsha u humbula nahone vha vha tendele u shumisa zwithu zwa vhukuma (sa tsumbo, zwithu zwa u vhalela ngazwo, minwe, vhulungu ha u vhalela) u tandulula thaidzo na u ṱola phindulo dzavho.

Musi vha tshi kumedza thaidzo ya ipfi kha vhagudi, ndi zwa ndeme u vha ṱuṱuwedza u:
 ♦ wana maano a u tandulula thaidzo
 ♦ ṱalutshedza uri vho tandululisa hani thaidzo
 ♦ bula uri ndi ngani vha tshi humbula uri phindulo yavho ndi yone.

Nyimele dzo ḓoweleaho dza u ṱanganya na u ṱusa dzi nga kumedzwa sa thaidzo dza ipfi. Nḓila ye thaidzo ya ipfi ya vhumbiwa ngayo, i ta uri zwi nga konḓa kana u leluwa hani u tandulula. Ndi zwa ndeme u shumisa luambo lu pfalaho, lwo leluwaho musi vha tshi kumedza thaidzo dza ipfi.

Kha Wekishopo ya 6 ro lavhelesa kha ndeme ya u shumisa luambo lu sa konḓi, lu re khagala na u vhudzisa mbudziso dzo teaho nga tshifhinga tsha nyito dza u tandulula thaidzo. Ro dovha ra dizaina thaidzo dza vhukuma kha nyimele dzine vhagudi vha nga dzi ḓivha. Kha Nyito ya 9, vha ḓo haseledza u tandulula thaidzo nga vhuḓalo.

🮲 Nyito ya 9

1. Kha vha lavhelese thaidzo dza ipfi dzi re afho fhasi (siaṱari la 27).
 ♦ Vha ḓo tandululisa hani thaidzo iṅwe na iṅwe?
 ♦ Vha humbula uri vhagudi vhavho vha Gireidi ya Ṱ vha ḓo tandululisa hani thaidzo iṅwe na iṅwe?
 ♦ Ndi ngani dziṅwe dza thaidzo idzi dzi tshi konḓa u fhira dziṅwe?
 ♦ Kha vha shumise zwithu zwa u vhalela ngazwo zwi re kha ṱafula yavho u sumbedza uri vhagudi vha ḓo tandululisa hani thaidzo.

Combine	Separate
Laylah has 6 sweets. Malusi gives her 2 more. How many sweets does Laylah have altogether?	There are 8 sweets. Laylah eats 3 sweets. How many are left for Malusi?
Laylah has 5 sweets. How many more does she need to have 8?	Laylah has 8 sweets. Malusi eats some. There are 4 left. How many did Malusi eat?
Laylah had some sweets. Malusi gives her 2 more. Now she has 8. How many did Laylah start with?	Laylah had some sweets. She gave 6 sweets to Malusi. She has 2 sweets left. How many sweets did she start with?

2. Write a word problem that you could present to your Grade R learners for each of the following:

Addition: 4 + 5 =
_____
_____
_____
_____

Subtraction: 7 – 3 =
_____
_____
_____
_____

Equal sharing without a remainder: 8 shared between 4 learners
_____
_____
_____
_____

U ṱanganyisa	U fhambanyisa
Laylah u na maḽegere a 6. Malusi a mu ṋea maṅwe 2. Lylah u na maḽegere mangana o fhelela oṱhe?	Hu na maḽegere a 8. Laylah a ḽa maḽegere 3. Ho sala maḽegere mangana a Malusi?
Laylah u na maḽegere 5. U ṱoḓa maṅwe mangana uri a vhe na a 8?	Laylah u na maḽegere a 8. Malusi a ḽa maṅwe. Ho sala 4. Malusi o ḽa maḽegere mangana?
Laylah o vha e na maḽegere. Malusi a mu ṋea maṅwe 2. Zwino u na a 8. Laylah o vhe e na maḽegere mangana mathomoni?	Laylah o vha e na maḽegere. O ṋea Malusi maḽegere a 6. O sala na maḽegere 2. O vha e na maḽegere mangana mathomoni?

2. Kha vha ṅwale thaidzo ya ipfi ine vha nga kumedza kha vhagudi vhavho vha Gireidi ya Ṱ kha tshiṅwe na tshiṅwe tsha zwi tevhelaho:

U ṱanganya: 4 + 5 =
_____
_____
_____
_____

U ṱusa: 7 – 3 =
_____
_____
_____
_____

U kovha hu si na tshiṱahe: 8 yo kovhiwa vhukati ha vhagudi 4
_____
_____
_____
_____

Equal sharing with a remainder: 5 shared between 2 learners

_____
_____
_____
_____

U kovha ha vha na tshiṱahe: 5 yo kovhiwa vhukati ha vhagudi 2

_____

_____

_____

_____

Session 4: Planning for teaching   1½ hours

This workshop session prepares participants for implementing Term 3 Weeks 7–10. By this stage of the year, the teacher will have noticed distinct differences between learners' levels of progress. Term 3 builds on the content of Terms 1 and 2. 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 Term 4.

Video 2

Watch the video of a teacher discussing how she deals with the range of learner competence in her class. Listen to what she says about planning and managing the difference between learners' ability levels and how she goes about her planning in order to support the learners' individual needs.

Note your ideas about differentiated teaching and learning in your classroom.

_____
_____
_____
_____
_____
_____

Activity 10

1. In your group, complete the planning templates for Term 3 Weeks 7–10 (Appendix A).
2. Your group will present an overview of your planning discussion to the other groups. Note the main points of your discussion on flipchart paper. Include answers to the following questions:
    ♦ What challenges do you anticipate in implementing Weeks 7–10?
    ♦ How can you solve each of these challenges in order to achieve successful implementation?
    ♦ 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?

Dzulo ḽa 4: U pulanela u funza

Dzulo iḽi ḽa wekishopo ḽi lugisela vhashelamulenzhe u thoma Kotara ya 3 Vhege ya 7–10. Nga tshifhinga tshino tsha ṅwaha, mugudisi u ḓo vha o no limuwa phambano vhukati ha ḽeveḽe dza mvelaphanḓa dza vhagudi. Kotara ya 3 i fhaṱa kha magudiswa a Kotara ya 1 na 2. Vhaṅwe vhagudi vha ḓo vha vho no lugela izwi, ngeno vhaṅwe vha tshi ḓo ṱoḓa thikhedzo na u pfumbiswa hunzhi u itela mvelaphanḓa. Ndi zwa ndeme u pulana na u lugisela phambano iyi kha vhukoni ha vhagudi u itela uri magudiswa na zwikili zwoṱhe zwa Gireidi ya Ṱ zwo kwamiwa, nahone vhagudi vho lugiselwa zwavhuḓi Kotara ya 4.

📹 Vidiyo ya 2

Kha vha ṱalele vidiyo ya mugudisi a tshi ṱalutshedza uri u shuma hani na vhukoni ho fhambanaho ha vhagudi ngomu kiḽasini yawe. Kha vha thetshelese zwine a khou amba nga u pulana na u langa phambano i re vhukati ha ḽeveḽe dza vhukoni ha vhagudi na uri u pulanisa hani u itela u tikedza ṱhoḓea dza mugudi muṅwe na muṅwe.

Kha vha ite notsi dza mihumbulo yavho nga u funza na u guda ho fhambanaho kiḽasini yavho.

_____
_____
_____
_____
_____
_____

👥 Nyito ya 10

1. Tshigwadani tshavho, kha vha fhedzise themphuḽeithi ya u pulana ya Kotara ya 3 Vhege ya 4–6 (Ṱhumetshedzo ya A).
2. Tshigwada tshavho tshi ḓo kumedza manweledzo a khaseledzo ya u pulana havho kha zwiṅwe zwigwada. Kha vha ṅwale mbuno khulwane dza khaseledzo yavho kha bammbiri ḽa fiḽipitshati. Vha katele phindulo dza mbudziso dzi tevhelaho:
   ♦ Ndi dzikhaedu dzifhio dzine vha lavhelela kha u thoma Vhege ya 7–10?
   ♦ Vha nga tandulula hani iṅwe na iṅwe ya dzikhaedu idzi u itela u swikelela u thoma ho bvelelaho?
   ♦ Nyito yo rangwaho phanḓa nga mugudisi i ṋetshedza hani mugudisi zwikhala zwa u linga na u tikedza vhagudi?
   ♦ Hone nyito dza tshigwada tshiṱuku dzo ḓiimisaho dzi a tendela nḓowenḓowe yo linganelaho ya nḓivho ntswa na zwikili?

31

Closing activities

30 minutes

 Activity 11

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.

_____
_____
_____
_____
_____

Share your reflections with the large group.

 Take back to school task

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 Term 3: Exemplar Record of Continuous Assessments (from *Activity Guide: Term 3*) to the next workshop.

Evaluation
Complete the Evaluation Form.

Nyito dza u vala

Nyito ya 11

U amba nga wekishopo: Kha vha dzhie minetse i si gathi u amba nga ḓuvha. Kha vha fhenḓe *Bugu ya Mushumo ya Vhashelamulenzhe* yavho u ḓi humbudza nga zwe zwa kwamiwa. Kha vha ṅwale mihumbulo yavho.

_____

_____

_____

_____

_____

Kha vha kovhane zwe vha amba na tshigwada tshihulwane.

Mushumo wa u ṱuwa nawo tshikoloni

1. Kha vha shumise *Nyendedzi ya Nyito: Kotara ya 3* u pulana na u thoma Kotara ya 3 Vhege ya 7–10 dza Mbekanyamushumo ya Mbalo

2. Kha vha ite notsi dza zwe zwa shuma zwavhuḓi, zwe zwa si shume zwavhuḓi, na uri vho tandulula hani dzikhaedu dziṅwe na dziṅwe nga tshifhinga tsha u thoma havho Kotara ya 3 Vhege ya 7–10.

3. Kha vha ṅwale mahumbulwa buguni ine vha i shumisa u itela u sedza mvelaphanḓa ya mugudi muṅwe na muṅwe (bugu ya u lavhelesa vhagudi). Kha vha shumise mutevhe wa u lavhelesa wa **'Kha vha ṱole uri vhagudi vha a kona u'** (kha iṱo tshibogisini) nga tshifhinga tsha nyito dzo rangwaho phanḓa nga mugudisi dziṅwe na dziṅwe u itela u endedza u lavhelesa havho na mahumbulwa.

4. Kha vha ḓe na bugu ya u lavhelesa vhagudi na notsi dze vha ita musi vha tshi khou amba nga ha u funza ha ḓuvha ḽiṅwe na ḽiṅwe kha wekishopo i tevhelaho.

5. Kha vha ḓe na khophi ya Kotara ya 3: Tsumbo ya Rekhodo ya u Linga hu yaho Phanḓa (u bva kha *Nyendedzi ya Nyito: Kotara ya 3*) kha wekishopo i tevhelaho.

U linga

Kha vha ḓadze Fomo ya u Linga.

APPENDIX A: TERM 3 WEEKLY PLANNING TEMPLATE

Term 3: 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		

ṰHUMETSHEDZO YA A: THEMPHUḼEITHI YA U PULANA YA VHEGE NGA VHEGE YA KOTARA YA 3

Kotara ya 3: Pulane ya Nyito: Vhege _____

SIA ḼA MAGUDISWA:		
THERO: **KHA VHA ḒIVHADZE NḒIVHO NTSWA:** **NḒOWEDZO:**		
Nyito dza kiḽasi yoṱhe	**Nyito yo rangwaho phanḓa nga mugudisi**	**Nyito dza tshiṱitshini tsha u shumela (nyito dza tshigwada tshiṱuku tsho ḓiimisaho)**
Ḓuvha ḽa 1		**Nyito ya 1**
Ḓuvha ḽa 2		**Nyito ya 2**
Ḓuvha ḽa 3		**Nyito ya 3**
Ḓuvha ḽa 4		**Nyito ya 4**
Ḓuvha ḽa 5		

Term 3: 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			

Kotara ya 3: Pulane ya Nyito: Vhege ____

SIA ḼA MAGUDISWA:		
THERO:		
KHA VHA ḒIVHADZE NḒIVHO NTSWA:		
NḒOWEDZO:		

Nyito dza kiḽasi yoṱhe	Nyito yo rangwaho phanḓa nga mugudisi	Nyito dza tshiṱitshini tsha u shumela (nyito dza tshigwada tshiṱuku tsho ḓiimisaho)	
Ḓuvha ḽa 1		Nyito ya 1	
Ḓuvha ḽa 2		Nyito ya 2	
Ḓuvha ḽa 3		Nyito ya 3	
Ḓuvha ḽa 4		Nyito ya 4	
Ḓuvha ḽa 5			

Term 3: 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				

Kotara ya 3: Pulane ya Nyito: Vhege _____

SIA ḼA MAGUDISWA:		
THERO:		
KHA VHA ḒIVHADZE NḒIVHO NTSWA:		
NḒOWEDZO:		
Nyito dza kiḽasi yoṱhe	**Nyito yo rangwaho phanḓa nga mugudisi**	**Nyito dza tshiṱitshini tsha u shumela (nyito dza tshigwada tshiṱuku tsho ḓiimisaho)**
Ḓuvha ḽa 1		**Nyito ya 1**
Ḓuvha ḽa 2		**Nyito ya 2**
Ḓuvha ḽa 3		**Nyito ya 3**
Ḓuvha ḽa 4		**Nyito ya 4**
Ḓuvha ḽa 5		

Term 3: 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			

Kotara ya 3: Pulane ya Nyito: Vhege ____

SIA ḼA MAGUDISWA:			
THERO:			
KHA VHA ḒIVHADZE NḒIVHO NTSWA:			
NḒOWEDZO:			
Nyito dza kiḽasi yoṱhe	**Nyito yo rangwaho phanḓa nga mugudisi**	**Nyito dza tshiṱiṱshini tsha u shumela (nyito dza tshigwada tshiṱuku tsho ḓiimisaho)**	
Ḓuvha ḽa 1		**Nyito ya 1**	
Ḓuvha ḽa 2		**Nyito ya 2**	
Ḓuvha ḽa 3		**Nyito ya 3**	
Ḓuvha ḽa 4		**Nyito ya 4**	
Ḓuvha ḽa 5			

Workshop 9 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?

_____
_____
_____
_____

Fomo ya u Linga ya Wekishopo ya 9

1. Wekishopo yo swikelela ndavhelelo dzavho?

_____
_____
_____
_____

2. Ndi zwifhio zwe vha guda kha iyi wekishopo zwe zwa vha thusesa?

_____
_____
_____
_____

3. Ho vhuya ha vha na zwiṅwe zwe vha si zwi takalele kana zwe vha konḓelwa u zwi pfesesa?

_____
_____
_____
_____

4. Vha ḓo shumisa hani zwe vha guda ngomu kiḽasirumuni yavho ya Gireidi ya Ṱ?

_____
_____
_____
_____

5. Vha na zwine vha tama u dzinginya u itela u khwinisa wekishopo dzi tevhelaho?

_____
_____
_____
_____