

WORKBOOK TRAINING MANUAL



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South Africa



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Welcome to the workbook training workshop

First and foremost, we would like to welcome you as a participant in the workbook training workshop in which we introduce you to the Rainbow Workbooks Series. We hope that you will find the workshop useful and that you will be able to use the information you gain in the workshop to assist you in your training of teachers or, if you are a teacher, in teaching your own learners.

Several countries around the world have started using workbooks like the workbooks provided by the Department of Basic Education (DBE) to assist teachers in their day-to-day teaching. Many teachers do not have access to photocopiers and other resources they need for their teaching, and the workbooks are intended to assist those teachers in particular. We hope that the workbooks will address some of the problems we have in our classrooms, particularly with teaching literacy and numeracy.

As a district official, subject advisor or teacher, you have a central role to play in the development of South Africa through education, and your contribution will make a big impact on the lives of our children - especially those who are underperforming or who do not have access to resources for learning. We therefore hope that you will find the workshop personally enriching, and that the workbooks will be useful in enabling learners to read, write and calculate, and to acquire a love for reading and Maths.

The aim of this booklet is to give you some essential information about why the Rainbow Workbook project was started by the Department of Basic Education and what its aims are. The booklet tells you about the following:

- What the workbooks are
- Why they were introduced
- What materials learners in the various grades should receive How to use the workbooks in the various languages and across the various grades
- What you need to know about the Maths books

1. Workshop programme

Day 1

	e 99 a	
Section	What it will deal with	Activities
1	Looking at the programme	
2	What workbooks are available What workbooks each grade should receive What are the colours used for each language	1
	TEA TIME	
3	Looking at the language books How the language books are organised Number of worksheets per week and per term What is Home Language and what is First Additional Language (FAL)?	2 3
4	How will teachers know what to do when using the workbooks? What are the different icons and what do they mean? What kind of texts will I find in a workbook? The Let's read icon The Let's write icon The Word work icon The Let's speak icon The Let's role play icon	4 5 6 7 8 9
	LUNCH	
	The Let's do icon The cut-outs ? What are high frequency or sight words ? How to use the dictionaries What are the sticky notes ? Where to sign and how to assess?	10 11 12
5	Some typical language and Life Skills worksheets Foundation phase Home Language Intermediate phase Home Language First Additional Language Life Skills	
6	Teaching a typical grade 1 literacy lesson How to teach a typical grade 3 intermediate phase language lesson. Looking at a typical life skill lesson	



Day 2

Section	What it will deal with	Activities
6	Practical teaching of language and Life Skills lessons. Presentations	
	TEA TIME	
	Continued presentations of language and Life Skills lessons Foundation phase Intermediate phase	
	LUNCH	
8	Looking at the Mathematics Workbooks The colour coding used in the Maths workbooks. Finding different coded activities in the Maths books Presenting a Maths lesson	13 14 15

Day 3

Section	What it will deal with	Activities
	 Continue presenting mathematics lessons for the Foundation phase, Intermediate phase or Senior phase. 	
	TEA TIME	
9	How learners perform in South Africa Looking at the ANA results Why we think the DBE produced the workbooks	16 17
10	What the workbooks hope to achieve	18
11	Some frequently asked questions about the workbooks. Closure	
	LUNCH	
	DEPARTURE	
		3

3

2. What workbooks are available?

The following workbooks are available in the following languages for schools in 2013.

		Grade	Title of workbook	Languages available	Books per grade	Number of worksheets per book	
		1	Home Language literacy and language	11 languages	Books 1 and 2	64	
80	Yan I	2	Home Language literacy and language	11 languages	Books 1 and 2	64 🎽	
1		3	Home Language literacy and language	11 languages	Books 1 and 2	64	
800		4	Home Language literacy and language	11 languages	Books 1 and 2	64 🄰	
		5	Home Language literacy and language	11 languages	Books 1 and 2	64	
82		6	Home Language literacy and language	11 languages	Books 1 and 2	64 🎽	
						-0	43:40
100000 T		1	Mathematics	11 languages	Books 1 and 2	64	Y=
2	Ne I	2	Mathematics	11 languages	Books 1 and 2	64	
		3	Mathematics	11 languages	Books 1 and 2	64	
8		4	Mathematics	English & Afrikaans	Books 1 and 2	64	
		5	Mathematics	English & Afrikaans	Books 1 and 2	64	
1	IN AND AND	6	Mathematics	English & Afrikaans	Books 1 and 2	64	
		7	Mathematics	English & Afrikaans	Books 1 and 2	64	
1		8	Mathematics	English & Afrikaans	Books 1 and 2	67	
		9	Mathematics	English & Afrikaans	Books 1 and 2	64	-8

Grade:		Home Language workbooks	Maths workbooks	FAL workbooks	Life Skil workboor	ls ks
Fill in you	r answei	Select any grade and t grade should receive.	then, using the above	table, say what boo	ks the learners in	this
Frade R Activity 1 Activity 1						
	3 I	Life Skills	11 languages	Books 1 and 2	32	
a a a a a a a a a a a a a a a a a a a	2 I	Life Skills	11 languages	Books 1 and 2	32	
	1	Life Skills	11 languages	Books 1 and 2	32	
	6 	First additional language (FAL)	English	Books 1 and 2	64	Y
	5 	First additional language (FAL)	English	Books 1 and 2	64	板
	4 	First additional language (FAL)	English	Books 1 and 2	64	YE
	3 	First additional language (FAL)	English	Books 1 and 2	32	2
N. C.	2 	First additional language (FAL)	English	Books 1 and 2	32	
¥==-	1	language (FAL)	English	Books 1 and 2	32	

Language colour codes







3. Looking at the Language books

How are the workbooks structured?

The Rainbow Workbooks are available in all the official first languages in South Africa from grades 1 to 6, and also in the First Additional Language (in English) from grade 1 to grade 6. We will talk about the Maths books later, in section B.

Activity 2

Select one Language workbook from the pack you have received. Scan the book and then fill in the following table.

Fill in the title of the book and its grade.	
How many pages are there in the book?	
How many worksheets are there in the book?	
How many terms does the book cover?	
How many lessons are there per week?	
How is a typical worksheet divided up?	
What language is it written in?	
What colour is the background of the cover?	
What colour is the strip on the bottom of each page?	
What are the names of the themes in the book?	

Each workbook consists of 64 worksheets – 32 per term. There are 2 volumes for each language and each volume covers the work of 2 terms. (Note that the FAL workbooks for grades 1 to 3 have fewer worksheets.)

Volume 1	Terms 1 and 2
Volume 2	Terms 3 and 4

There are 64 worksheets per volume. In total, there are 128 (64 x 2 volumes) worksheets volumes) worksheets across the 4 terms.





Activity 3

Look at the main picture at the start of an odd numbered worksheet. Write down 3 questions you can ask about the picture to orientate learners about what text they will read.

- You can see from this activity that the pictures can play an important function in helping prediction and orientating learners to the text. Visual literacy and reading pictures are important in becoming literate.
- Every child in a public school should receive two workbooks for Maths and two for language. If they are not using English as their Home Language, they should aslo receive two FAL books.
- And if they are in the foundation phase, they should receive two Life Skills books in their own language.
- The books are provided free of charge.

Home Language and First Additional Language

So far, there are home language books in all eleven official languages. For learners who do not have English as their home language, we have introduced the FAL workbooks, which use the same learning approach as the mother-tongue books so as to support learning across the other learning areas. The FAL workbooks support learners so that they will be able to understand, speak, read and write English and, in the higher grades, use English as their language of learning. The structure of the FAL workbooks is similar to the structure of the Home Language workbooks.

We now know that the workbooks are divided into

- ★ 8 weeks per term
- ★ 4 worksheets per week
- ★ 4 themes each with 16 worksheets



How then will you know what to do when you use the worksheets in your classes?

Worksheet title We go fishing 13 Worksheet number Speaking or Let's read discussion icon Term 3 - Week Term and week indicator 27 Lake Road New Town 3074 8 6 September 2012 We had a long weekend and so my father took us to the dam to fish. We took our fishing rods. We also took a big pot and pan to cook the fish that we caught. We waited and waited but we did not catch anything. Then Nomsa played with the frogs. Sam climbed the tree and Ann fed the ducks. Soon the sun started to set and so we drove home. We were all very hungry by the time we reached home. I hope that next long weekend you will go fishing with us. Your friend Jabu 26

What are the features of the workbooks?

Language colour code

4.



How will you know what to do?

We have used icons to tell you what to do at various times. You will see that the workbooks for each language, for the FAL and the Life Skills use the following icons, depending on the grade. The icons tell us when the learners should speak, read and write.

Let's read icons





Activity 4

Find one **Let's read** activity in any of the language books. You may look at the FAL or the Home Language books. Say what the children will read, what the activity before the reading is and what the activity after the reading is. Fill in your answers in the table.

What will they read?	
What do they do before reading?	
What do they do after reading?	



Activity 5

Page through a language book and tick off which of the following reading texts you found.

Grade:			Book number:		
Narrative or story	\checkmark	Dialogue	\checkmark	Song	\checkmark
Information text	\checkmark	Recipe	\checkmark	e-mail	\checkmark
Instructional text	\checkmark	Poem	\checkmark	Web page	\checkmark
Fairy tale or folk tale	\checkmark	Newspaper	\checkmark	Advertisement	\checkmark
Invitation	\checkmark	Postcards	\checkmark	Poster	\checkmark

About reading

We have included a **Let's read** icon whenever learners should be engaged in a reading activity. It is up to you to decide whether the activity should be an individual, shared, paired or group reading activity. Reading is very important for improving learners' ability in a language: it strengthens their vocabulary, grammar, sentence construction, paragraphing knowledge and thinking and problemsolving skills. Good teachers encourage their learners to read every day, and to read more than just the information contained in the worksheets.

We have included reading text in every alternate worksheet (usually the odd-numbered worksheets). We have done this so that your learners have reading texts in different genres, as specified in the CAPS documents. As you will have noticed in the previous activity, the worksheets contain newspaper articles, poems, dialogues, instructional text, e-mails, letters, web pages, narratives, fairy tales, invitations, postcards, recipes and advertisements, so that your learners have a large variety of text types to read. We know it is often difficult for teachers to find this kind of material at the correct level.

The **Let's read** activities are also included in the foundation phase workbooks. You will need to decide when to use an individual, shared or group reading approach.



What are these reading approaches?

Shared reading involves the teacher reading the text (several times if necessary) using her finger or a "pointer" to help learners to follow the progress through the text. It is a good idea, before you start, to talk about the pictures with the learners so that they understand the vocabulary and even the context. This is especially useful when you are teaching FAL. Ask questions about the pictures and help the learners to link the story to their lives. As a teacher you must model fluent reading and use the text to develop vocabulary, comprehension, decoding skills, grammar, punctuation and an understanding of text structure. Much of this is done for you in the worksheets.

For **Group guided reading** you will usually need to have sets of graded readers for your learners. We know that for many teachers these resources are simply not available. In that situation, you can use the workbooks for group guided reading.

You should then organise the learners into ability groups of between 6 and10 children. Choose text for them to read from the workbooks (or graded readers if you have them) that is appropriate for their level. Work with each group once a week for

15 minutes while the other groups are involved in workbook or other activities. The purpose of guided reading is for the teacher to give learners individual attention in order to develop their comprehension and word attack skills in their additional language, and to see how their reading is progressing.

It is also possible to use workbooks to teach different levelled learners in the same class. You can very easily ensure that the groups work at their own pace on different worksheets depending on their level. If you have learners in your class who are really struggling, you could also use a lower grade workbook or even a workbook in a more appropriate language. The similarity in design makes it possible for you to teach **multigrade** or **multilingual** children in one classroom. It is up to your school to ensure that you get books that you need for these variations.

Let's write icons



🖐 What to do

The learners are expected to do most of their work in the workbook. This means that they must write their answers in the spaces provided. However, for some extended writing activities the space available may not be sufficient. When that happens, get your learners to write out rough notes or do some activities in their exercise books.

Activity 6 Use any language workbook and find 3 activities where children are expected to write short answers and three where they must write long answers.						
	What they must write	Page number				
Short answers						
Long answers						

In the foundation phase, we have continued to give handwriting and cursive handwriting activities in the mother-tongue language books so that children learn the skills of letter formation and handwriting in their Home Language. The writing activities in grade 1 are very simple since learners need to focus on these basic skills, which they can apply when they begin to write in their first additional language in the third term of grade 1. You can also use the writing activities to do "shared writing" where, working together with you, they write a simple story.

There are many writing activities in the workbooks, and once the learners have done all 128 worksheets, they will have completed the minimum amount of writing required for the grade. Encourage your learners to do all the written exercises and correct their work per worksheet so that they can get written or oral feedback from you about their work. (You can, of course, read out answers or get the learners to check each other's work as well – but you must check their work at least every second day.) Encourage all the children to write a great deal, and do not worry if they make many mistakes.

It is only through writing a large amount that learners will make progress, provided they receive constructive feedback from you or from other learners. Give the learners who finish the work quickly and accurately extra written work to keep them motivated and to help them excel in the language. In the lesson notes which you will receive, we outline certain extension activities that you can use for "fast" learners.

Word work icons



🖐 What to do

In the workbooks we give a lot of attention to building learners' vocabulary and word usage. This is especially important if you are teaching FAL, where learners have to build a new vocabulary that is different from what they hear and speak every day.

In the foundation phase, we give extensive support for the teaching of phonics. In grade 1 we introduce one letter every two days to ensure that the learners can remember the letter and the sound. We use a multisensory approach because it helps learners to recognise the letter and sound automatically when they see it. You will see in the workbooks that learners have to see the letters, write them in the air, form them with their bodies, practise writing them, listen and say the sounds. During the foundation phase it is very important to get the learners to work with sounds and become aware of the different groups of sounds.

Some worksheets from grade 2 onwards contain a specific activity where the learners must use words in various ways. This helps them to gain a better understanding of the function of a word in a sentence, how to pronounce words, how to form new words, and how words change tense.

wonderful	<mark>un</mark> happy	giant	go 💛
beautif <mark>ul</mark>	undress	<mark>g</mark> iraffe	get
gratef <mark>ul</mark>	untidy	gem	gate

Activity 7

Using any language workbook, find three **word work** activities and then describe what the learner is required to do in each.

1	
2	
3	

Let's speak icons



🖐 What to do

Children are constantly developing their listening and speaking skills in and out of school, and not only in their literacy and language classes. Listening and speaking are crucial to all learning and it is important for your learners to develop these skills effectively. The worksheets highlight areas and times when you should involve learners in speaking and discussion activities. Ensure that they talk about the pictures, and about the topics in their worksheets such as sports, concerts, topical events and storytelling. Some of the speaking activities are role plays where children take on the roles of characters. In the foundation phase, try to listen to every child's news at least once every two weeks.





Role play



🖐 What to do

Drama is an important activity for language development. When you see the **role-play** icons you will see that we usually give learners an instruction as to what role play to prepare, what characters they should include and what they must do once they have completed the role play.

Activity 9 Using any language workbook, find three Role play activities and then describe what they require the learner to do. Also think of other places in the workbooks where you could introduce a role play activity.

Let's do icon



🖐 What to do

These activities are exactly what they say – just do it! In these activities learners are expected to do a wide range of stimulating tasks, such as drawings, cutting-out activities and making posters. Learners work either as individuals, in pairs or in groups. Give them enough time and support to carry out the tasks. Read these sections very carefully in your planning, so that you know what to prepare and can give the learners good guidance and support in doing these tasks.

1	Activity 10
Cal.	Using any language workbook, find three Let's do activities and then describe what they require the learner to do.
1	
2	
3	

Take a look at the back of a workbook and see what these activities are.



The cut-outs

The cut-out activities are included to enrich your teaching. They are usually fun activities that support the learning outcomes. It may be a good idea to store the cut-outs in an envelope so that they don't get lost.



Sight words or high frequency word boxes

English has a large number of words that are not spelt as they sound (e.g. one, two). It is therefore very difficult, and sometimes impossible, to decode them phonetically. Children learn to recognise sight words (or "look and say" words) by seeing them repeatedly.

The English Oxford Dictionary lists more than 180 000 words, but only a small number of these words make up most of what we read. We call these words high frequency words and they need to be learned by "looking and saying" and by seeing them repeatedly.

Choose any paragraph in this book and you will see words like *a*, *up*, *of*, *we*, *these*, *can*, *you*. These are high frequency words. We have included the high frequency and sight words in boxes in almost every second worksheet in the foundation phase. Get the learners to memorise these words and to practise reading them as fast as they can.

Many of these words do not follow the usual phonic rules and that is why it is important for learners to learn them by sight. If we had to pause each time we came across a word (like *you* or *said* or *why*) to try and work it out, we would overload our memory and would not be able to concentrate on what the text actually means. That is why learners must simply learn these words by heart. In the other languages, where appropriate, we have included words and parts of words that have high frequency in the target language. These are included in the *sight word* boxes for your learners to learn by sight.



Dictionary

There is an alphabetical dictionary at the back of each of the books where learners can write down new words as they learn them, in the correct alphabetical space. In grade 6 we have a running dictionary space on alternate worksheets where learners are required to write new words and their meanings.

Ensure that learners record at least three new words per worksheet.



Sticker books

In the FAL foundation phase and Grade R books have a specific approach to teaching vocabulary. We use the peel-off stickers in the sticker books to engage learners actively in building their own picture dictionary (pictionary). They need to say the words and then look for the correct sticker.

You can also increase the span of the word lists by having word walls and by labelling things in the classroom. Many teachers have developed vocabulary games which teach the words in a fun way.



Sticky notes

We have included sticky notes in some of the intermediate phase books. These are intended to give you and the learners some important background information about the theme or some information about a particular grammar usage.

02	A State of the sta	Acti	vity 12			
		Find a	a sticky note in one of the language	books.)	
	Workb	ook:		page:		
	Then ti	ck one	e of the following:			
	\checkmark	The r	note gives information on what to do	C		
	\checkmark	The r	note introduced a language rule			✓ \
	\checkmark	The r	note reminds learners of work they	have do	one before	
	\checkmark	The r	note tells the teacher what to do			



Teacher signing

The workbooks have a space for the teacher to sign to indicate that the teacher has seen the learner's worksheet. The worksheets should involve automatic assessment. Each activity asks the learner to carry out a task, either as an individual, in pairs or in groups. Learners must get feedback (response, advice, comment, opinion or constructive criticism) whenever they do any work. The feedback can come from the following sources:

- Teacher: Sign: Date:
- The learner himself or herself (checking their own work and reflecting on what he/ she is doing)
- A friend in pair work
- The group, the class or you as the teacher

Feedback means learners are assessed. When you give feedback, as the teacher, you informally confirm the learner's response by saying something like "correct", "that's good" or "well done". You could also tell the learner that his or her answer is "wrong because ...", or that the answer is "incomplete and should include ...", or that he or she is "not answering the question". Learners need to know where and why they have made mistakes and how to correct them.

Assessment indicator

In most of the books we include 3 stars for assessment.

You, as a teacher need only tick one so that you are able to assist those learners who need support.



There is no need for the learner to know what the colours mean. Your role is to assist learners who need extra support.



5. Some typical worksheets

Let's look at some typical pages from the Home Language and First Additional Language books and consider how the icons guide what learners must do.















6. Teaching Grade 1 Literacy



Step 1

Let learners look at the picture in their books. They should sit with a partner and talk about what they see in the picture. You can ask them questions like:

- What is happening in the picture?
- Where are they?
- What are they doing?
- Why do you think they are ...?
- You can think of your own questions.

Let learners trace the letter S in the air and listen to the S sound.



Lastly let them copy the sentence and read what they have written.

Ann and Sam sit.

Ann and Sam sit.





7. Introducing the Grade R workbooks

to find her hal

Birthday Calendar

January

Introducing the new Grade R workbooks

The workbooks consist of three different parts:

★ The main text where children are required to practice their writing or numeracy.

Mys

- ★ Glossy cut out pages which are loaded with fun activities for your learners to do.
- ★ Sticker pages jam packed with peel off stickers for an interactive learning experience.

left hand

left foot

February

March

★ Every fortnight we introduce a thematic Life Skill poster to stimulate learner discussions. The posters are interactive. Let your learners paste in the stickers in the correct spaces.

et's talk

front back

right hand

April

June

right foot

★ The workbooks integrate the teaching of literacy, numeracy and life skills using fun and engaging ways to capture young learners' interest and attention.

★ Take a look at the Let's write activities where

learners will write or trace in their workbooks.

Paste the stickers in the

out, Me

ENGLISH

3:



8. Looking at the Maths books

The numeracy/ mathematics workbooks

The workbooks for Mathematics in the first three grades are available in the mother tongue to assist in developing the essential cognitive understanding of basic numerical concepts. The workbooks for grades 4 to 9 are available in English and Afrikaans.

The Maths workbooks follow a similar format to the Language books.

They include a number of features and icons to guide you.



Introduction

Mathematics Teacher



The coloured margins on the worksheets tell you what content is being taught.

Example frame (in yellow)			
	Colour coded cor	itent area		
Martine 1 Martine 1 700 80 4 - 300 20 3 500 40 6 - 200 80 8	Content	Side bar colour		
(20 − 200 + 20 − 20 + 14 − 3) + 2 200 − 200 + 16 − 20 + 16 − 20 + 20 + 26 − 20 + 20 + 20 + 20 + 20 + 20 + 20 + 20	Revision	Purple		
- 20+10+1 balanced the following using the given assertance.	Number	Turquoise		
	Patterns and functions (algebra)	Electric blue		
2 36-30 ²	Space and shape (geometry)	Orange		
	Measurement	Green		
	Data handling	Red		
And Andrew and Andrew A	Fun/challenge activit of worksheet activity that m challenging activities that c parents or caregivers at hor	ment rating ty (this is an end ay include fun or an also be shared with ne)		
cher Guide - Grade 6		Page ii	i	
000				
ACTIVIT	ry 13			
Look at	any Mathematics workboo	k. Find activities that	t are	
represer	nted by these colour code	s. Fill in what the lea	rner should d	lo.
				Worksheet number
Purple	Revision			
Turquoise	Number			
Electric blue	Patterns			
Orange	Space and shapes			

 Activity 14 Focus on one type of Maths content activity. Tick what you will look for: 						
Revision	\checkmark	Number	\checkmark	Patterns and Functions	\checkmark	
Data	\checkmark	Measurement	\checkmark	Space and shape	\checkmark	





• What colour is this activity?

Now look through any of the Maths books and find 8 activities that deal with the same content. Then complete this table to show what worksheets contains these activities and when they will be done.

Worskheet Number and content	Term and Week
4 Number line	Term Week

Worskheet Number and content	Term and Week

of the Teacher Guide



Mathematics Teacher Guide - Grade 6

Page iv

Activity 15 Focus on the Revision worksheets. Now Discuss what content is revised in 6 of the revision worksheets. Jot down your ideas. Worksheet Number What content does this revision activity deal with? Image: Image:

I LOVE MATHEMATICS!

Can you image a school where all the children say I LOVE MATHEMATICS.

Let us explore more about what the workbooks are offering us to encourage our learners to say I LOVE MATHEMATICS.



The **workbooks** open a whole new world of mathematics to our learners. On a daily basis they can interact in interesting and fun way, by counting money, multiplying squares to find the area, subtracting the distance already travelled and dividing sweets amongst friends.

You will find that your learners enjoy learning and practising in their **workbooks**. Many learners say they enjoy the books because they can use what they learn in their day-to-day lives.

Some things that learners say about Mathematics

"Why do I need Mathematics? I will not use it in my future job." And you should answer: "Did you know working on algebra and geometry helps you develop thinking and reasoning skills and that these skills assist us with problem solving? Trying to live your life **without** knowing mathematics will be extremely difficult.

Mathematics as a language

Throughout the **workbooks** we use the language of mathematics. Mathematics uses its own special language that involves symbols, such as +, -, x and ÷ and notations. The **workbooks** provide learners with lots of opportunities to interact in a different ways with these symbols.

These symbols are also linked to different words in the **workbooks** for learners to understand them.



What is special about the Mathematics workbooks?

- The colourful workbooks are intended to motivate learners to love Mathematics.
- The workbooks also give you, the teacher, ideas on how to use concrete resources to make mathematics even more meaningful.
- The workbooks also challenge learners through a variety of problems and games.

When teaching and learning of Mathematics we should aim to develop learners who are confident and competent to deal with any mathematical situation without fearing Mathematics. Each learner should appreciate the beauty and elegance of Mathematics. As teachers we should also create the spirit, the curiosity and love for Mathematics. The **workbooks** provide all these opportunities through a variety of worksheets.



Beauty and elegance of mathematics

Learners appreciation for the beauty and elegance of Mathematics should be developed.

You will find beautiful cultural and natural patterns throughout the **workbooks**.

Already in the Foundation Phase learners start working with patterns to understand the beauty of mathematics.



Spirit of curiosity

The workbooks challenges the curiosity of the learners by setting them problems to solve that are appropriate to their level and knowledge. The books encourage them to solve their problems with stimulating questions. They give them a taste for, and some means of, independent thinking.



Love for Mathematics

The activities in the books are aimed at developing a love for Mathematics. We aim to empower learners with better understanding of the **relationship** between things in the world.







Help your learner to think mathematically using the workbooks

There are three kinds of knowledge: physical, social and conceptual knowledge.

Physical knowledge

Learners gain physical knowledge through touching, using, playing with, and acting on concrete/physical material. Learners need a lot of concrete experiences in the mathematics classroom to develop their physical knowledge of numbers and number patterns.

The **workbooks** provide a variety of ideas and pictures on how to use concrete resources. At the back of each **workbook** we include cut-outs that encourage the use of resources.

Teachers need to make a list of concrete resources that will go with each worksheet. Find out if your school has these resources or whether you can make them yourself.

Social knowledge

Social knowledge is the information that we need to remember. Social knowledge is not limited to words it also includes social conventions. For example We need to be on time at school. It is a convention, it is a decision we have taken and all agree to.

Below are example of some mathematics conventions that we will find throughout the workbooks:

- The way in which we write a number sentence.
- The way in which we write a number symbol.
- The way in which we use the equal sign to show equivalence.

Conceptual knowledge

When learners see relationships, patterns, regularities and irregularities when doing activities, they are constructing conceptual knowledge. A concept is a general idea we hold in our minds that helps us to understand real individual things in the world. We build up conceptual knowledge based on our experience.

What is the role of the teacher in developing conceptual knowledge when using the workbooks? Teachers should use the **worksheets** to assist their learners to build up their understanding of Mathematics and to see the patterns in numbers.

Encourage your learners to reflect on what they are doing and thinking when completing a **worksheet**. You can ask them questions like:

- How did you get this answer?
- What did you do to complete this task?
- · What is another way to solve this problem?
- Can you compare your thinking or solutions with your partner's?
- How can you show your thinking using, drawings, concrete resources, numbers and words?

The teacher must help learners to put what they have learned in words to explain it to the others.





The concrete-to-representational-to-abstract sequence

What is the purpose of this sequence? The purpose of teaching through a concrete-to-representationalto-abstract sequence of instruction is to ensure learners have a thorough understanding of mathematical concepts and skills while they are learning.

What is it and how does it link to the workbooks?

Concrete level: Concrete materials such as counters, unifix cubes, base ten blocks, beans, sticks, stones, pattern blocks, etc. can be used.



The **workbooks** provide children with many opportunities to practice and demonstrate mastery using concrete materials. You task as a teacher is to make sure they have these items.

Representational: This include the semi-concrete and semi-abstract level. The semi-concrete involves the representation of actual numbers with things such as dominoes, pictures on cards, dice, etc. and the semi abstract involves drawing pictures that represent the concrete objects previously used.

Semi-concrete	Semi-abstract

The workbooks provide cut-outs at the back of the workbook and opportunity for learners to use pictures to solve problems.

Abstract level

After the learners have mastered the two previous levels we can move to the abstract level, using only numbers and mathematical symbols.

Many opportunities in the **workbooks** are given on the abstract level to demonstrate and practice the **concept** before moving to the next **concept**.



You role as teacher is to get your learners to love Mathematics.

9. How do we know how our learners are performing?

The situation in South Africa

South Africa faces many challenges in promoting literacy. It is rare to find schools with well-used libraries, and many homes have no books. Books in African languages are scarce, so children do not have the opportunity to read in their Home Language. Some classrooms have no books, and even in classes that do have sets of readers, they are often at the wrong level. As a result our children are not performing at the expected level.

How do we perform in national and international assessments?

South Africa's active participation in a number of international testing programmes over the last decade has provided information on how our learners are performing compared with the rest of the world. We have participated in the following international programmes:

- Southern and East Africa Consortium for Monitoring Education Quality (SACMEQ) in 2001 and 2007, with a focus on languages and mathematics in grade 6.
- Trends in International Mathematics and Science Studies (TIMSS) in 2003, with a focus on mathematics and science in grade 8.
- Progress in International Reading Literacy Study (PIRLS) in 2006, with a focus on literacy in grade 5.

Our own home-grown testing

South Africa has carried out annual national assessments for many years now and in 2011 the Annual National Assessments (ANA) were introduced to

- Encourage teachers to assess learners using appropriate standards and methods
- Enable district officials to identify schools that need extra support
- Enable schools to recognise how well or badly they are doing relative to other schools
- Encourage parents to know how their child is performing and how to assist the child to improve.

What are the ANAs?

The Annual National Assessments (ANA) aim to measure whether learning is producing the desired improvements in literacy and numeracy. They will help us to find out about problems within the school system and how to address them. The overall results in 2011 at grade 3 level indicated that there was an average score in literacy (35%) and numeracy (28%). The performance at grade 6 level was low, with 28% in language and 30% in mathematics.



Activity 16

Talk about how your school or district performed in the ANA. Jot down some of your thoughts for improving the situation.

The following charts show the poor results that were achieved in the Grade 3 ANA assessments.



Figure B: Numeracy



Activity 17

Look at these charts and jot down notes on how your province performed in literacy and numeracy in the last ANA.

Key to levels of achievement:						
Level Code	Descriptionof achievement	Marks in Percentage				
4	Outstanding	70 and above				
3	Achieved	50 - 69				
2	Partially Achieved	35 - 49				
1	Not Achieved	0 - 34				
	Level Code 4 3 2 1	Level Code Descriptionof achievement 4 Outstanding 3 Achieved 2 Partially Achieved 1 Not Achieved				



10. What the workbooks hope to achieve

Literacy and numeracy have been identified as areas of major concern and the workbooks form part of the Department of Basic Education's broader strategy to improve learner performance and to energise both schools and the public to focus on these core foundational skills. The ultimate objective is that all learners should be able to perform at age-appropriate levels in literacy and numeracy.

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Activity 18

Talk to your group about why you think the DBE decided to produce workbooks for use in schools. Jot down some of your ideas.

What should workbooks do?

The workbooks were designed to provide organised work in the form of worksheets for every child in mathematics and language. The aim of the workbook project is to provide every child with books of worksheets – in the child's mother tongue for home language and numeracy as well as for FAL and Life Skills. Each book contains 64 worksheets (two pages each) – one a day for four days of the week. The Senior Phase Maths books contain more worksheets. Learners will use the books to do written exercises in language and mathematics.

The workbooks are also intended to help teachers, many of whom have up to now developed their own worksheets and often made copies of them at their own expense. The workbooks will be useful to teachers who have large classes and who might not have resources like photocopiers or other reading materials.

All the workbooks have been adapted for use by children who are visually impared. The books have been enlarged to assist learners who are partially sighted. They have also been adapted for blind learners. Both the large print and the braille books will become availabe.

As we mentioned earlier in this booklet, the workbooks will also be useful for teachers who teach multilingual classes. It is not uncommon in the urban areas for teachers to have up to five different mother-tongue languages in one class. Because the workbooks are available in all 11 languages, teachers will find them useful in a mixed language class.

The workbooks also aim to help teachers who have to teach more than one grade in a class. Because the workbooks are available for learners from grade 1 to 6, it is possible for the teacher to work separately with different grades in the same classroom, giving learners in each grade their own gradespecific workbooks. In classes where there are mixed ability groups, the teachers can give each group a different worksheet.

You will be able to use the workbooks to identify learners' needs for extra support from early in the school year. The Department's workbooks all start with revision of the previous grade level, with grade 1 giving attention to school readiness and cognitive development. You will be able to use this review or revision of the previous grade's work to identify learners who need extra support or remedial action. In addition, each alternate lesson requires the teacher to make a judgement on which learners require additional or remedial support and which high achievers may need extended activities.

The Grade R workbooks form part of the Department of Basic Education's strategy to boost South African children's school performance. Research shows that for every year that children are exposed to stimulating activities before Grade 1, they perform better academically in later years - throughout their primary and secondary schooling.

The Foundation Phase curriculum requires that Grade R learners are given the opportunity to develop their prereading, pre-writing and premathematics skills, and outlines the skills they will need to get a solid educational foundation so that they find it easier to learn in Grade 1 and beyond. The Grade R workbooks therefore aim to assist children in developing these skills and the key initial concepts they need to lay the foundations for learning in later phases. They also provide children with lots of opportunities to develop and practise the skills that will prepare them for Additional formal schooling. resources,

posters and

Height Chart 1.5m 1.4m 1.3m 1.2m 1.1m 100 70en 60em <u>20an</u> pictures are available for free download on the DBE website www.education.gov.za

11. Some frequently asked questions about the workbooks

Are learners permitted to take the workbooks home?

Yes, you should actually encourage learners to take their workbooks home so that they can do homework. Of course, special care will need to be taken to make sure they do not lose their books. Encourage parents and caregivers to engage actively with their children's workbooks in order to participate in their learning. Even parents who can't read can ask their children to show them their work or to explain to them what they are doing in their workbooks.



Are learners allowed to write in their workbooks?

All learners must write in their workbooks. The difference between a workbook and a textbook is that the workbook is designed to enable the learner to answer questions and practise reading, writing and numeracy in the workbooks. A textbook does not have the same design features. And because learners need to hand back their textbooks for reuse in the next year, they are discouraged from writing in their textbooks. That is not the case with the workbooks.



What happens to the workbook at the end of the year?

At the end of the school year, the workbooks become the property of the learner and are a record of the learner's progress during the year. Encourage your learners to look at them in the long summer holidays to remind them of what they learned during the year. Some research shows that learners tend to forget some of what they learned during the school holidays. Tell your learners to reread the workbook stories or to practise their Maths in an exercise book. This will help them to remember what they have learned.



Is there any cost involved for the school or parents?

The books will be supplied for free at no cost to the schools or parents. They are entirely funded by the Department. What do they cost the school? Nothing – and they cost the DBE less than R10.00 per book. This is far cheaper than it costs teachers to make photocopies of worksheets for their classes.



How were the workbooks in the African languages developed?

Developing the workbooks was not an easy task: the language workbooks and the Maths grades 1-3 are available in all the 11 official languages. During the development stages, teams of African language authors had to do the following:

- Define the phonics that have to be taught in each grade.
- Make linguistic adaptations.
- Assist with the standardisation of concepts. In some languages, concepts had to be "coined". These have been submitted to the relevant National Language Boards for consideration as "new" terms in the specific language.





Will learners still get textbooks?

Yes. Workbooks do not replace textbooks. They are an additional learning and teaching aid. They are labelled per term and week.

Where we live, we do not speak the languages in the same way that they are written. Why can't you write the way we speak?

Firstly, we never speak the languages in the same way that languages are written. When we use the written language we use standard language, in complete sentences and avoid using slang or colloquial language that we use when we speak. As you know here is only one matric English Home Language examination and only one isiZulu examination – and these examinations are intended for children across the country. And, as you are aware, the children will write one language ANA examination and it will be in a standard language.

For this reason we have tried to remain as loyal as possible to using standard language. Secondly, we are aware of some regional dialects within particular languages.

We have in these cases adopted the most standard written form of the language.



Can one size fit all?

Sometimes teachers ask if it is possible to use a common set of books for learners in different parts of the country. They ask us "How can we teach learners about the sea if we live inland?" or "How can we teach learners about aeroplanes if they are unlikely to see them?"

We would argue that though children need to know about their own community they equally need to know about the country, the world and the universe. That is why across the 128 worksheets in the language books and the 32 worksheets in the Life Skills books we have presented a whole range of different contextual experiences and situations that learners need to know about. The world is changing and we need to prepare learners for change. We did not want to deny learners in poor areas of any of the information just because they are poor or geographically isolated. Similarly we did not want to deny children from higher socio-economic groups' exposure to the life situation of others. Remember, in the end they will all be expected to write the same ANA examinations and they will all have to write the same NSC exams at the end of their schooling. And later in life when many go to university or college that they will find that these institutions teach all students the same content. Universities do not differentiate between any special groups or regions. We need to prepare our children for this.

Lastly we want to point out that our own research into the use of the workbooks has shown us that the children enjoy learning about the broad range of topics included in the books.





Why are the children in the pictures from different races? We don't have this in all our schools?

We have consciously ensured that the children in artwork reflect the diversity of South Africa. All the books include multi-cultural classes even if this is not a reality in the lives of the children you teach. We see this 'rainbow-ness' as part of their education. We have also tried to show the diversity of our children by including pictures of children with glasses, children in wheelchairs and boys and girls doing things that are sometimes considered activities for the other sex.

So you will sometimes see girls playing soccer and boys cooking, women train drivers and men as nurses.

We have tried not close off any of life's options for any of our children.



A last word

We hope that you have enjoyed the workbook workshop. We hope that you found it useful and that you will be in a position to present the same workshop to the teachers in your districts. If you are a teacher yourself, we hope that the workshop has inspired you to assist us to improve the learning outcomes of all our children.







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