



basic education

Department:  
Basic Education  
REPUBLIC OF SOUTH AFRICA

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# 2023 LTSM Learning Brief



**basic education**

Department:  
Basic Education  
REPUBLIC OF SOUTH AFRICA



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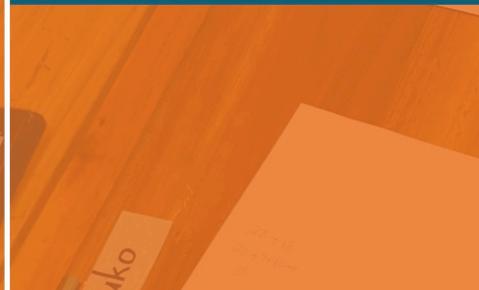
Moloi, Q., Sibeko T., Koenig N., Sommerdyk S., and Roberts N., (2023)  
Assessments Learning Brief 2023, Kelello.

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A one-page summary of 10 LTSM key  
to the South African primary maths  
education landscape



## Purpose

For learners to practice their numeracy skills that they have been taught in class. They are also meant to help teachers track the progress of learners and provide extra support if needed.

## Target Phase(s)

Foundation Phase  
Intermediate Phase  
Senior Phase

## Target Grade(s)

Grade R-9

## LTSM Components

Learner workbooks  
Teacher guides  
Teacher lesson plans

## Domain(s)/Sub-domain(s) covered

CAPS Curriculum

## Language(s) of LTSM

All South African Official Languages

## Level of use

School level-National

## LTSM Format

Paper-based  
Available digitally:  
[https://www.education.gov.za/Curriculum/LearningandTeachingSupportMaterials\(LTSM\)/Workbooks.aspx](https://www.education.gov.za/Curriculum/LearningandTeachingSupportMaterials(LTSM)/Workbooks.aspx)

## Start year of use and/or duration

2013 to date

## Collaborators

Unspecified

## Primary articles/reports on the LTSM and its use

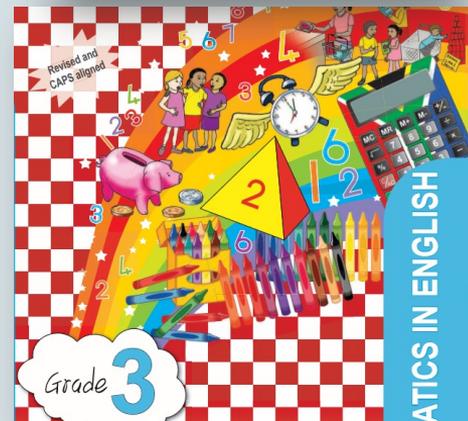
1. <https://www.education.gov.za/>
2. Veronica I. McKay and Nic Spauull. (2022). **Large-Scale Interventions** Large scale interventions to improve early reading and mathematics in South Africa.

## Secondary articles on the LTSM and its use

1. Veronica I. McKay. (2018). Introducing a Parallel Curriculum to Enhance Social and Environmental Awareness in South African School Workbooks. *Balancing Individualism and Collectivism* (pp.97-122).
2. Peter Pausigere. (2017). A sociological analysis of the pictures used in the South African foundation phase numeracy workbooks and their mathematical implications. *South African Journal of Education* N.70.
3. Chapter 2 Changing the 'grammar of schooling' in South Africa: The case of the DBE Workbooks  
*Veronica McKay & Nic Spauull*

## Cost

Costs are covered by the DBE.



## Purpose

To improve teaching and learning in the early grades of primary schooling. To design and develop tools, materials, strategies and systems accountable to the teaching and learning context of the majority of South African poor schools.

## Target Phase(s)

Foundation Phase

## Target Grade(s)

Grades R-3

## LTSM Components

Teacher guide  
Learner workbooks  
Lesson plans

## Language(s) of LTSM

English and IsiXhosa

## Domain(s)/Sub-domain(s) covered

CAPS Curriculum

## Level of use

School Level- Provincial

## LTSM Format

Paper-based

## Start year of use and/or duration

2007 to present

## Collaborators

University of Fort Hare, DBE, Lead Teachers, Subject Advisors – province (ECDoE) was the implementer

## Primary articles/reports on the LTSM and its use

1. <https://www.mandelainstitute.org.za/>
2. Ramadiro, B., & Porteus, K. (2017). Foundation phase matters: Language and learning in South African rural classrooms. Magic Classroom Collective Press.

## Secondary articles on the LTSM and its use

1. Spaull, N., van der Berg, S., Wills, G., Gustafsson, M., Kotze, J. 2016. Laying Firm Foundations: Getting reading right. The final report to the ZENEX Foundation on poor student performance in Foundation Phase literacy and numeracy.
2. Chapter 5 The science and magic of reading in action: Lessons learned from the Room to Read
3. Literacy Programme in South Africa Kerri Thomsen, Vanessa Francis & Catherine Ngwane
4. 3. Chapter 6 Improving rural early grade mathematics: Design principles and patterns of improvement *Kimberley Porteus*
5. 4. Chapter 9 Using technology to improve English literacy: The case of 'Reading Eggs' in South Africa 2012–2021 *Joy Olivier, Nicola Harris, Megan Borole & Bruce McDougall*
- 7.

## Cost

Information on cost effectiveness of the LTSM intervention (cost per learner and per teacher) is not available.



## Purpose

To support the development of mathematics as a sense-making, problem-solving activity in which children are expected to develop a body of knowledge that they can apply in unfamiliar situations with understanding and reasoning.

## Target Phase(s)

Foundation Phase  
Intermediate Phase

## Target Grade(s)

Grade R-7

## LTSM Components

Learner workbooks  
Teacher guides  
Mathematical manipulatives

## Language(s) of LTSM

All South African Official Languages

## Domain(s)/Sub-domain(s) covered

CAPS Curriculum

## Level of use

School Level

## LTSM Format

Paper Based  
Online: recommended that it is used on a tablet with a 7 inch or larger screen.

## Start year of use and/or duration

2009

## Collaborators

Jumpstart

## Primary articles/reports on the LTSM and its use

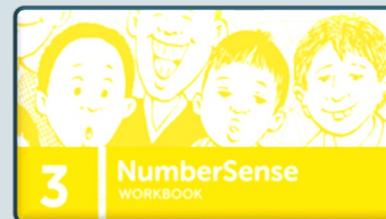
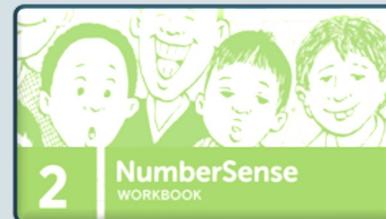
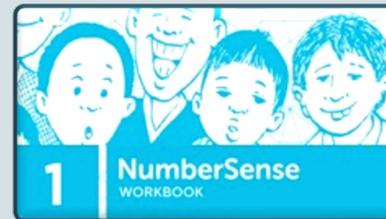
1. <https://www.number sense.co.za/about/>

## Secondary articles on the LTSM and its use

1. Nicky Roberts. (2020). Assessing Early Grade Mathematics Learner Outcomes Using m-Learning.
2. Chapter 14 NumberSense: A focus on Shikaya in South Africa *Aarnout Brombacher & Nicky Roberts*
3. Chapter 15 Using NumberSense workbooks and formative assessment to improve learning outcomes in early grade mathematics *Qetelo Moloji, Nicky Roberts & Jabu Thomo*

## Cost (2022)

Teacher Guides (R232/book)  
Number Sense Companion Workbooks (R57/book)



## Purpose

To equip teachers to teach reading-for-meaning and calculating-with-confidence in Grades R-3 in South Africa.

- LTSM components
- The planned lesson activities are in the TG
- There is also a manipulatives set aligned to the material per grade

## Target Phase(s)

Foundation Phase

## Target Grade(s)

Grade R-3

## LTSM Components

Learner workbooks  
Teacher guides  
Teacher lesson plans  
Dictionary  
Videos

## Language(s) of LTSM

Multilingual (English, Sepedi, IsiXhosa and Afrikaans)

## Domain(s)/Sub-domain(s) covered

CAPS Curriculum

## Level of use

School Based

## LTSM Format

Paper based and online pdfs.

<https://fundawande.org/learning-resources?i=8#learningResourcesHolder>

## Start year of use and/or duration

2021-to date

## Collaborators

A reference team from universities, mathematics NGOs and the Department of Basic Education. The South African Numeracy Chair project at Rhodes University

## Primary articles/reports on the LTSM and its use

All reports available on:

<https://fundawande.org/news?i=4>

1. Ardington, C. and Henry, J. 2023. Funda Wande Limpopo Evaluation: Second Midline Report. SALDRU. University of Cape Town. Cape Town.
2. Ardington, C. and Henry, J. 2021. Funda Wande Limpopo Evaluation: Midline Report. SALDRU. University of Cape Town. Cape Town.
3. Ardington, C. and Henry, J. 2022. Funda Wande Eastern Cape Evaluation – Midline Report. SALDRU, University of Cape Town, Cape Town.
4. Evans, N., Sorto, M. et al. 2021. Bala Wande Grade 1 Teacher Guide and Learner Activity Book: Desk Review. Texas State University.

## Secondary articles on the LTSM and its use

1. Chapter 11 The implementation of the Bala Wande programme in Grade 1 in three provinces: Lessons learned *Ingrid Sapire, Permie Isaac, Sihlobosenkosi Mpofu, Lorna Sako, Mmapula Seoloana, Thobeka Ndamase & Vuyokazi Mafilika*
2. Chapter 8 Two birds with one stone: Improving Grade 1 learning outcomes using Funda Wande
3. teaching assistants in Limpopo 2021–2022 *Nwabisa Makaluza & Bokang Mpeti*
4. Chapter 3 Not adding it up: Grade 1 mathematics outcomes in the Eastern Cape and Limpopo. *Nic Spaull, Irene Pampallis, Cally Ardington, Ingrid Sapire & Permie Isaac*

## Cost

Open source



## Purpose

To carry out an empirical investigation into the nature of the outcomes of mathematics education in primary schools.

## Target Phase(s)

Intermediate Phase

## Target Grade(s)

Grade 4 & 6

## LTSM Components

Learner Activity Book  
Teacher Guide

## Language(s) of LTSM

English

## Domain(s)/Sub-domain(s) covered

Outcome Based Education

## Level of use

School Level-Provincial

## LTSM Format

Paper-based

## Start year of use and/or duration

2004-2012

## Collaborators

Funders: The Shuttleworth and Zenex Foundations, Anglo American 4 Chairman's Fund and XStrata Trust (South Africa) Endorsed by the DBE.

## Primary articles/reports on the LTSM and its use

1. [www.zenexfoundation.org.za](http://www.zenexfoundation.org.za)
2. Fleisch, B., Taylor, N., Sapire, I. and Herholdt, R., 2011. Evaluation of back to basics mathematics workbooks: A randomised control trial of the primary mathematics research project. *South African Journal of Education*, 31(4), pp.488-504.

## Secondary articles on the LTSM and its use

1. Nic Spaull. (2015). The Primary Mathematics Research Project: 2004-2012. An Evidence-Based Programme of Research into Understanding and Improving the Outcomes of Mathematical Education in South African Primary Schools. *Thesis Submitted for the Degree of Doctor of Philosophy*.
2. Eric Schollar and Associates. (2008). THE PRIMARY MATHEMATICS RESEARCH PROJECT TOWARDS EVIDENCE-BASED EDUCATIONAL DEVELOPMENT IN SOUTH AFRICA.
3. Eric Schollar. (2016). Evidence-Based Educational Development: The Primary Mathematics Research Project (2004-2012)

## Cost

The per capita printing cost was R84 in 2010 for one year. As the workbooks are retained and used throughout Intermediate Phase, the cost per learner would drop to R28 at constant 2010 values. Field research suggested that an annual top-up of around 10% would be required.

### PRIMARY MATHEMATICS RESEARCH PROJECT

## BACK TO BASICS!

Getting Learning Outcome One Right

*Intermediate Phase*

## LEARNER'S WORKBOOK

Concept Design	Eric Schollar
Project Researchers	Eric Schollar Lindsay McCoy
Writer	Althea Kemp
Editors	Lindsay McCoy Eric Schollar

## Purpose

To use the great levelers of education and skills development to extend opportunities to the most deserving, yet most excluded members of society.

## Target Phase(s)

Intermediate Phase

## Target Grade(s)

Grade 4,5 & 6

## LTSM Components

Learner workbooks  
Teacher guides  
Teacher lesson plans

## Language(s) of LTSM

English

## Domain(s)/Sub-domain(s) covered

CAPS Curriculum

## Level of use

School Level

## LTSM Format

Paper based  
Online: Tablets and Computers  
<https://ukuqonda.co.za/product-category/creative-commons-material/>

## Start year of use and/or duration 2013

## Collaborators

Department of Basic Education and the Ukuqonda Institute

## Primary articles/reports on the LTSM and its use

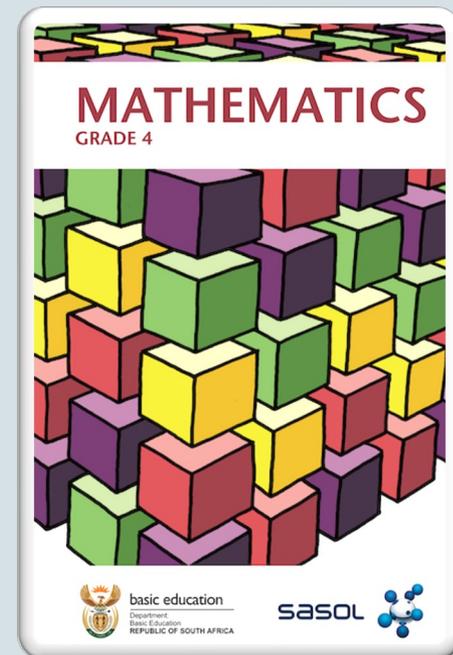
<https://ukuqonda.co.za/>

## Secondary articles on the LTSM and its use

None identified

## Cost

Open source.



## Purpose

To provide conceptual knowledge. Conceptual knowledge is knowledge of concepts, relations and patterns. Conceptual knowledge assists and enables learners to make sense of maths. Learners who have conceptual knowledge are able to explain the reasoning behind their work.

## Target Phase(s)

Foundation and Intermediate Phase

## Target Grade(s)

Grade R-4

## LTSM Components

Learner workbooks  
Teacher guides  
Teacher lesson plans

## Domain(s)/Sub-domain(s) covered

CAPS Curriculum

## Language(s) of LTSM

English, isiXhosa, isiZulu, Sepedi, Tshivenda, Xitsonga

## Level of use

School Level- National

## LTSM Format

Paper-based  
Digital resources available at:  
<https://nect.org.za/materials/teaching-math-for-understanding>

## Start year of use and/or duration

2019 to date

## Collaborators

Japan International Cooperation Agency, DBE & NECT

## Primary articles/reports on the LTSM and its use

1. <https://www.education.gov.za/>
2. Department of Basic Education (DBE) (2019). Mathematics Teaching and Learning Framework for South Africa. Teaching Mathematics for Understanding.

## Secondary articles on the LTSM and its use

1. Nicky Roberts. (2019) The standard written algorithm for addition:
2. Whether, when and how to teach it. - *Journal of the Association for Mathematics Education of South Africa*, 40(1).

## Cost

The evaluation conducted in 2019, reported that the TMU's financial and unit cost information was unavailable at the time the evaluation was concluded.

# MATHEMATICS Grade 1 English Learner Activity Book 2020 TERM 4

## Purpose

To assist in improving education

## Target Phase(s)

Foundation Phase and Intermediate Phase

## Target Grade(s)

Grade 1-7

## LTSM Components

Learner workbooks  
Teacher guides  
Teacher lesson plans- a CAPS Aligned planner, Tracker and Assessment resources  
Mathematical manipulatives

## Language(s) of LTSM

Multilingual

## Domain(s)/Sub-domain(s) covered

CAPS Curriculum

## Level of use

School Level-Provincial

## LTSM Format

Paper based

## Start year of use and/or duration

2015

## Collaborators

Department of Basic Education

## Primary articles/reports on the LTSM and its use

1. [National Education Collaboration Trust \(nect.org.za\)](http://nect.org.za)
2. Profs Unterhalter, Molefe, Tom, (PI: Dr Michael Cosser; Co-PI: Dr Wilfred Lunga, PI: Philip Browne, Co-PI: Dr Stephen Rule. (2022). EVALUATION OF THE NATIONAL EDUCATION COLLABORATION TRUST (NECT)

## Secondary articles on the LTSM and its use

None Identified

## Cost

Costing data is not available

**MATHEMATICS**  
**Grade 3**  
**English/**  
**isiZulu**  
**Teacher's**  
**Resource**  
**Pack**  
**2020 TERM 1**

## Purpose

To design, test and implement change programmes aimed at improving learner outcomes

## Target Phase(s)

Foundation Phase and Intermediate Phase

## Target Grade(s)

Grade 1-7

## LTSM Components

Learner workbooks  
Teacher guides  
Teacher lesson plans

## Language(s) of LTSM

Bilingual (English/isiZulu)

## Domain(s)/Sub-domain(s) covered

CAPS Curriculum

## Level of use

School Level-Provincial

## LTSM Format

Paper based  
Resources available at <https://pilo.co.za/resources/teaching-and-learning-resources/foundation-phase-lesson-plans-and-supporting-resources/maths/>

## Start year of use and/or duration

2014

## Collaborators

National Education Collaboration Trust (NECT)  
Department of Basic Education, **SADTU**

## Primary articles/reports on the LTSM and its use

1. <https://pilo.co.za/>
2. Christie, P. & Monyokolo, M. (Eds.). (2018). Learning about sustainable change in education in South Africa: the Jika iMfundo campaign 2015-2017. Saide: Johannesburg
3. PILO Report-back to Donors 27 October 2014.

## Secondary articles on the LTSM and its use

1. Francine de clerq and Yael Shalem. (2020). Large-scale improvement interventions in the education system: PILO's contribution to the theory of change in education.
2. Mbongiseni John Mazibuko. (2019). The exploration of School Management Team's (SMT's) learning experiences of the use of Jika iMfundo toolkits and training: A case study of one primary school in Pinetown District
3. Allistair Witten and Kaizer Makole. Mapping the Pathways of Systemic Change in Education in South Africa: *A case study of the Programme to Improve Learning Outcomes (PILO)*.

## Cost .

Cost information is unavailable. Open source.

## MATHEMATICS



**Jika iMfundo**  
what I do matters

Endorsed by:



## Purpose

To improve the teaching and learning of Mathematics in Primary Schools

## Target Phase(s)

Foundation Phase

## Target Grade(s)

Grade R-3

## LTSM Components

Mathematical manipulatives  
Learner workbooks  
Teacher guides  
Teacher lesson plans

## Language(s) of LTSM

All South African Official languages

## Domain(s)/Sub-domain(s) covered

CAPS Curriculum

## Level of use

National

## LTSM Format

Paper based  
Materials can be found on:  
<https://www.education.gov.za/MSAP2022.aspx>

## Start year of use and/or duration

2016

## Collaborators

Funded jointly by the FirstRand Foundation, Anglo American, Rand Merchant Bank and the Department of Science and Technology. It is administered by the National Research Foundation (NRF). Numeracy Chairs at Wits and Rhodes University, the Department of Basic Education, international experts, professional, research and NGO bodies.

## Primary articles/reports on the LTSM and its use

1. [Wits Maths Connect Primary - Wits University](#)
2. Venkat, H., Askew, M., Morrison, S., Abdulhamid, L. (2019) Shifts in early number learning in South Africa In: M. Graven, H. Venkat, A. A. Essien & P. Vale (ed.), Proceedings of the 43rd Conference of the International Group for the Psychology of Mathematics Education, Pretoria, South Africa, 7-12 July 2019: Volume 3, Research reports (L-Z) (pp. 422-429). Pretoria, South Africa: PME.

## Secondary articles on the LTSM and its use

1. Chapter 12 Bringing the Mental Starters Assessment project to scale in Foundation Phase: A 'building your timber' approach *Hamsa Venkat & Mellony Graven*

2. Chapter 7 A decade of the Wits Maths Connect Primary project (2010–2020): Design research moving promising interventions to scale *Hamsa Venkat, Mike Askew & Samantha Morrison*
3. Chapter 8 A decade of the South African Numeracy Chair Project: Out-of-school learner-focused interventions *Mellony Graven, Pamela Vale, Wellington Hokonya & Roxanne Long*
4. Children doing mathematics with confidence in the early grades by 2030: What will it take? *Hamsa Venkat & Nicky Roberts*
5. Chapter 1 Early grade mathematics in South Africa between 2000–2010: What did we know in 2010, and how did this set the stage for the 2010–2020 decade? *Hamsa Venkat & Ingrid Sapire*

## Cost

Open source, printing costs, teacher support imbedded in existing government (provincial and district) structure without additional cost.

