



# SECONDARY SCHOOL

## Library & Resources

## Catalogue

# Love to teach? Never stop learning!

**A world-class solution for professional development!**



## Face-to-face workshops

Macmillan Teacher Campus offers face-to-face training on a variety of topics ranging from ECD, Grade R, Foundation Phase, Intermediate Phase, Senior Phase and FET as well as classroom management. We also offer ETDPSETA accredited courses and a formal ECD NQF Level 4 qualification.



## Online workshops

Macmillan Teacher Campus uses various online platforms to deliver quality workshops that are interactive, focusing on the latest trends.

## Self-study workshops (online)

Macmillan Online Teacher Campus (MOTC) is an asynchronous online platform hosting a range of workshops that are easily accessible and very affordable.

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Log in to <https://shop.motc.co.za/>



Our vision is to empower, motivate and develop educational professionals in South Africa, and to provide a learning pathway to continue their professional development.

**Contact us for more information**

**Macmillan Teacher Campus**

011 731 3409 | [za.mtc@macmillaneducation.co.za](mailto:za.mtc@macmillaneducation.co.za)  
[www.macmillaneducation.co.za](http://www.macmillaneducation.co.za)



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-  [MacmillanSouthAfrica](https://www.facebook.com/MacmillanSouthAfrica)

## Key





# macmillan eBOOKS

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THE BLUE BOOK SERIES

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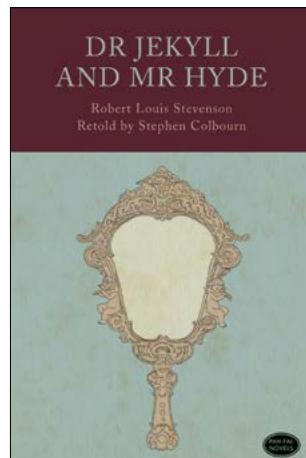
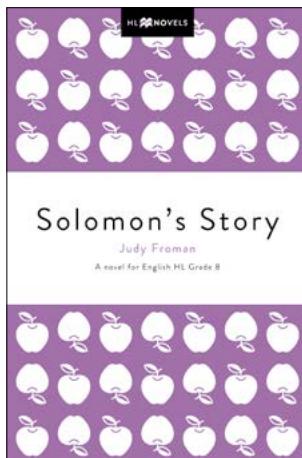
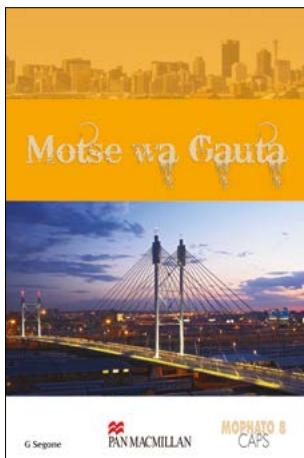
A close-up photograph of a young boy with short, dark hair, smiling at the camera. He is wearing a grey ribbed sweater over a white collared shirt and a red and green striped tie. He is holding a blue pen and writing in a white notebook with blue horizontal lines. In the background, another student is visible, also in uniform. The setting appears to be a classroom. A blue circular graphic in the top left corner contains the text.

## Senior Phase (Grades 8 & 9)

# Senior Phase Novels

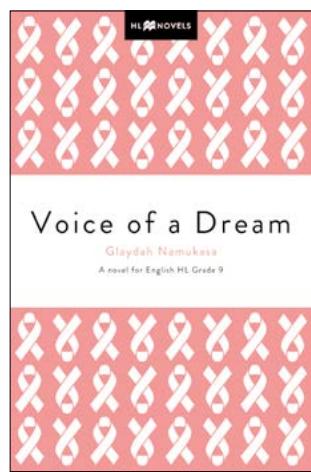
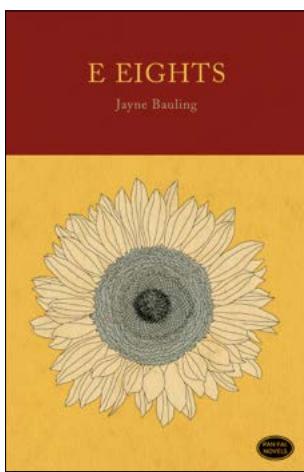
CAPS APPROVED

eBOOK AVAILABLE



Title	ISBN
<b>Grade 8</b>	
<b>Afrikaans First Additional Language</b>	
En toe glimlag Felicia	9781431019403
Die Stad van Goud	9781431019700
<b>English First Additional Language</b>	
Dr Jekyll and Mr Hyde	9781431019946
Frankenstein	9781431019106
<b>English Home Language</b>	
Solomon's Story	9781431019137
The Copper Trio	9781431019977
<b>Sepedi Home Language</b>	
Toropo ya maswi le dinosi	9781431019496
<b>Setswana Home Language</b>	
Mmadikotsi a ngeba	9781431019250
Motse wa Gauta	9781431019557
<b>Siswati Home Language</b>	
Lidolobha leGolide	9781431019588
<b>Xitsonga Home Language</b>	
Doroba ra Nsuku	9781431019670
Kutani Nhlalala a n'wayitela	9781431019373

Title	ISBN
<b>Grade 9</b>	
<b>Afrikaans First Additional Language</b>	
Harte van Glas	9781431019717
Felicia en die Eerste Ridders	9781431019410
<b>English First Additional Language</b>	
E Eights	9781431019953
Kayo's House	9781431019113
<b>English Home Language</b>	
Oliver Twist	9781431019984
Voice of a Dream	9781431019144
<b>Sepedi Home Language</b>	
Ke a swa, ke a tuka!	9781431019502
<b>Setswana Home Language</b>	
Malakabe a pelo	9781431019564
Mmadikotsi le masogwana a Soweto	9781431019267
<b>Siswati Home Language</b>	
Tinhlitiyo Letisemlilweni	9781431019595
<b>Xitsonga Home Language</b>	
Malangavi ya Mbilu	9781431019687
Nhlalala na masocha ya tihanci ya Soweto	9781431019380



# Exercising English

The remastered editions of this popular language series are the ideal resources for learning and teaching English. These grade-specific titles offer a comprehensive range of English exercises, providing learners with ample practice in mastering the rules of the English language. An exciting new feature is the inclusion of online content, which offers additional theory and interactive activities to reinforce what has been studied. Each book covers all aspects of language learning, including key skills like visual literacy and summarising. This series equips teachers with the tools they need to ensure learners not only practice and understand all key concepts but also actively engage with the content – and enjoy the process.



Title	Grade	ISBN
Exercising English for Generation Z Book 1	Grades 7–8	9780639827308
Exercising English for Generation Z Book 2	Grades 9–10	9780639827322

WORKBOOK PLUS similar online exercises aimed at offering students the opportunity to put into practice the rules of English Grammar.

J Ballot & R Saunders

Exercising English for **GENERATION Z**

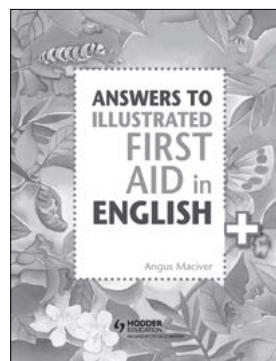
WORKBOOK PLUS similar online exercises aimed at offering students the opportunity to put into practice the rules of English Grammar.

J Ballot & R Saunders

Exercising English for **GENERATION Z**

# Illustrated First Aid in English

**Illustrated First Aid in English** provides all the help and support needed for learning and practising English. It offers a comprehensive guide to all aspects of the English language including idiom, everyday usage and formal syntax. It is suitable for both English Home Language and First Additional Language and can be used in class, or as a reference and revision book.



Title	ISBN	Language
Illustrated First Aid in English	9781471859984	English
Answers to Illustrated First Aid in English	9781471875076	English

ILLUSTRATED FIRST AID in ENGLISH

Angus Maciver

# Chambers-Macmillan South African Senior Phase Dictionary

The **Chambers-Macmillan South African Senior Phase Dictionary** is the third dictionary in a series of English school dictionaries for learners in South Africa.

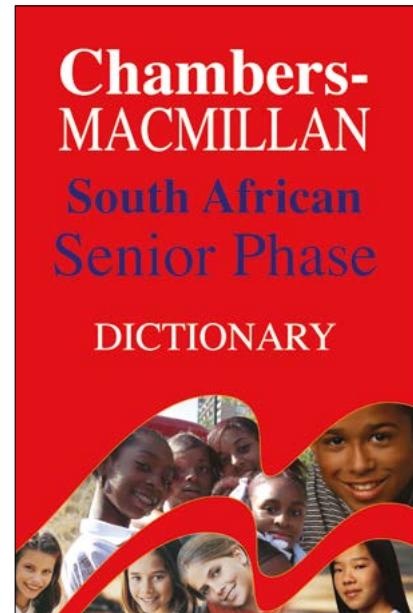
This dictionary is intended for all Senior Phase learners, with special attention paid to the needs of those learners for whom English is both an additional language and a language of learning.

Learners can learn correct English usage as they look up the meanings of words.

## Special features include:

- Over 18 000 words and phrases
- 21 000 example sentences show how words are used
- South African English content developed in consultation with the English Language Teaching Information Centre (ELTIC)
- Over 600 usage notes give extra help in correct English usage
- Clear illustrations to aid explanations
- Help with pronunciation.

Title	ISBN	Language
Chambers-Macmillan South African Senior Phase Dictionary	9780797826724	English



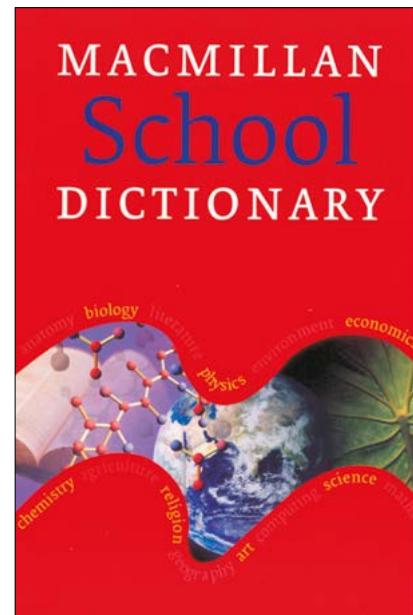
# Macmillan School Dictionary

- A two-colour dictionary for Intermediate and Senior Phase learners

## The dictionary includes:

- Special emphasis on school vocabulary
- Subject-specific words highlighted throughout
- Information on grammar patterns, collocations, phrases and phrasal verbs
- Helpful reference section containing information on the Periodic Table, irregular verbs, pronunciation, geographical names and nationalities, and expressions using numbers
- Helpful example sentences
- Hundreds of synonyms and antonyms
- Special help boxes on word families, synonym sets and vocabulary building
- Clear, simple definitions using a restricted defining vocabulary
- Menus for words with five or more meanings for easy navigation.

Title	ISBN	Language
Macmillan School Dictionary	9781405013420	English



# Kliek

CAPS  
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DIGITAL

## Digitale Afrikaanse Taalkursus vir Generasie-Z

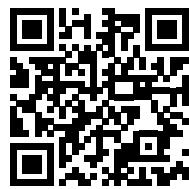
**Kliek** bied aan jou 'n eenvoudige, maklike oplossing tot afstandonderrig in EAT Afrikaans met die gebruik van 'n effektiewe gemengde studie benadering. Ontvang toegang tot hierdie wonderlike produk se komponente:

### Vir Onderwysers:

- NVK en IEB (Onafhanklike Eksamens Direktoraat) belynde inhoud
- Monitor individuele en volle klas vordering
- Genereer leerder vorderingsverslae en hou boek van die leerder se resultate
- Bied aanlyn aktiwiteite aan en kry onmiddellike terugvoer
- Onderwysers portaal beskikbaar

### Vir Leerders:

- Interaktiewe oefening, speletjies, en animasie
- Ontvang onmiddellike terugvoer en wenke soos jy studeer
- Aanlyn oefening wat taalvaardighede toets
- Werk saam deur die aanlyn klets kamer
- Ondersteun studie van Graad 6 tot 12



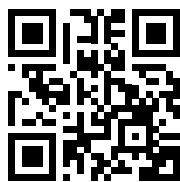
Titel	Graad	ISBN
Kliek Klaskamer (Leerder Boek + Aanlyn Toegang)	Graad 6–12	9780620764322
Kliek Aanlyn (Alleenlik Aanlyn Toegang)	Graad 6–12	KLIEKAANLYN
Kliek Onderwysers portaal (Om saam met Kliek klaskamer of Kliek Aanlyn te koop)	Graad 6–12	KLIEKONNIE

# Kliek Werkboeke

CAPS  
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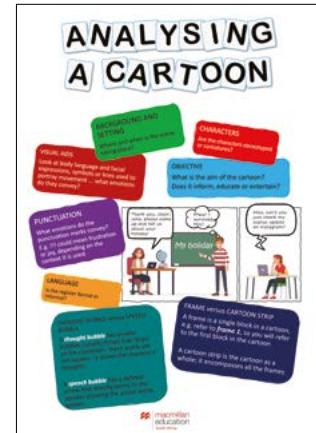
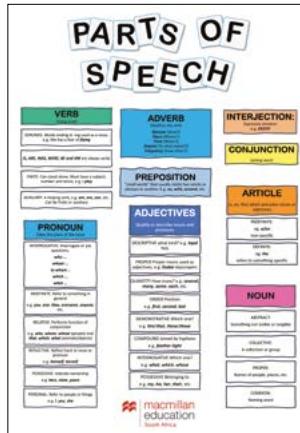
Die nuwe **Kliek Werkboeke** bied 'n gemengde studie benadering tot onderrig en leer van Eerste Addisionele Taal Afrikaans. Die reeks bied vier nuwe graad spesifieke werkboeke vir Graad 8, 9, 10 en 'n gekombineerde werkboek vir 11 & 12. Die reeks laat leerders toe om hulle vaardighede in Afrikaans te verbeter en om op hulle eie pas te werk om die aktiwiteite in die werkboek en aanlyn te voltooi.



Titel	Graad	ISBN
Kliek Digitale Afrikaanse Werkboek vir Generasie Z: Eerste Addisionele Taal Graad 8	Graad 8	9780639827353
Kliek Digitale Afrikaanse Werkboek vir Generasie Z: Eerste Addisionele Taal Graad 9	Graad 9	9780639827315

# Posters for the Grade 8–12 English Language Classroom

Create a print-rich classroom



## Features:

- 10 x A1 CAPS aligned laminated posters
- Each poster addresses a specific problem area experienced in the English language classroom
- These posters allow for continual subconscious learning, as learners are exposed to the information on the poster displayed on the classroom walls
- These visually pleasing, uncluttered posters make it easy for learners to understand and retain difficult concepts

## Poster topics:

- ✓ Co-ordinating conjunctions
- ✓ Instructional words
- ✓ Advertising
- ✓ Literature essay
- ✓ Parts of speech
- ✓ Punctuation
- ✓ Transactional writing
- ✓ Transactional templates
- ✓ How to analyse a poem
- ✓ Analysing a cartoon

Did you know that 65% of people worldwide find visual learning more effective, therefore, a poster is one of the best ways to ensure that your learners grab these language concepts fast and easily.

Title	ISBN	Language
Posters for the Grade 8–12 English Language Classroom	9781779972149	English

# First Aid in Mathematics

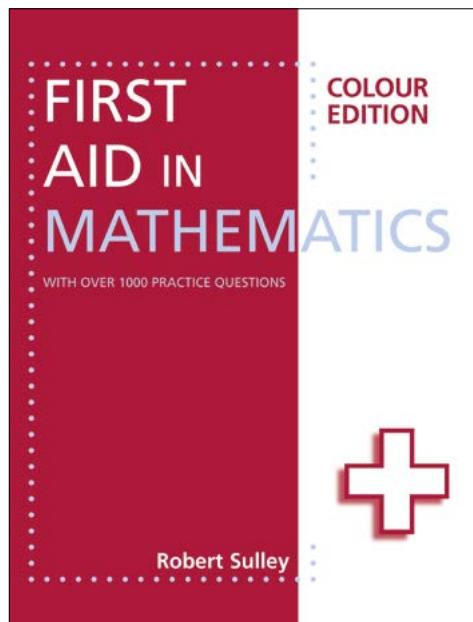
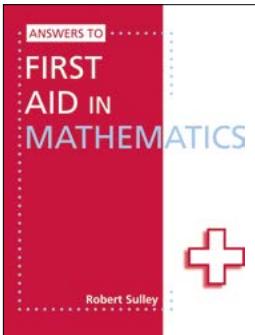
**First Aid in Mathematics** provides all the help and support needed for learning and practising mathematics. It offers comprehensive coverage of core mathematical topics in clear and accessible language. It can be used in class, or as a reference and revision book. This title:

- develops a strong basis of understanding with core topics covered in clear and accessible language
- improves students' ability to work through problems with plenty of practice exercises and revision tests
- reflects its international readership with terms and information that are appropriate for students worldwide.

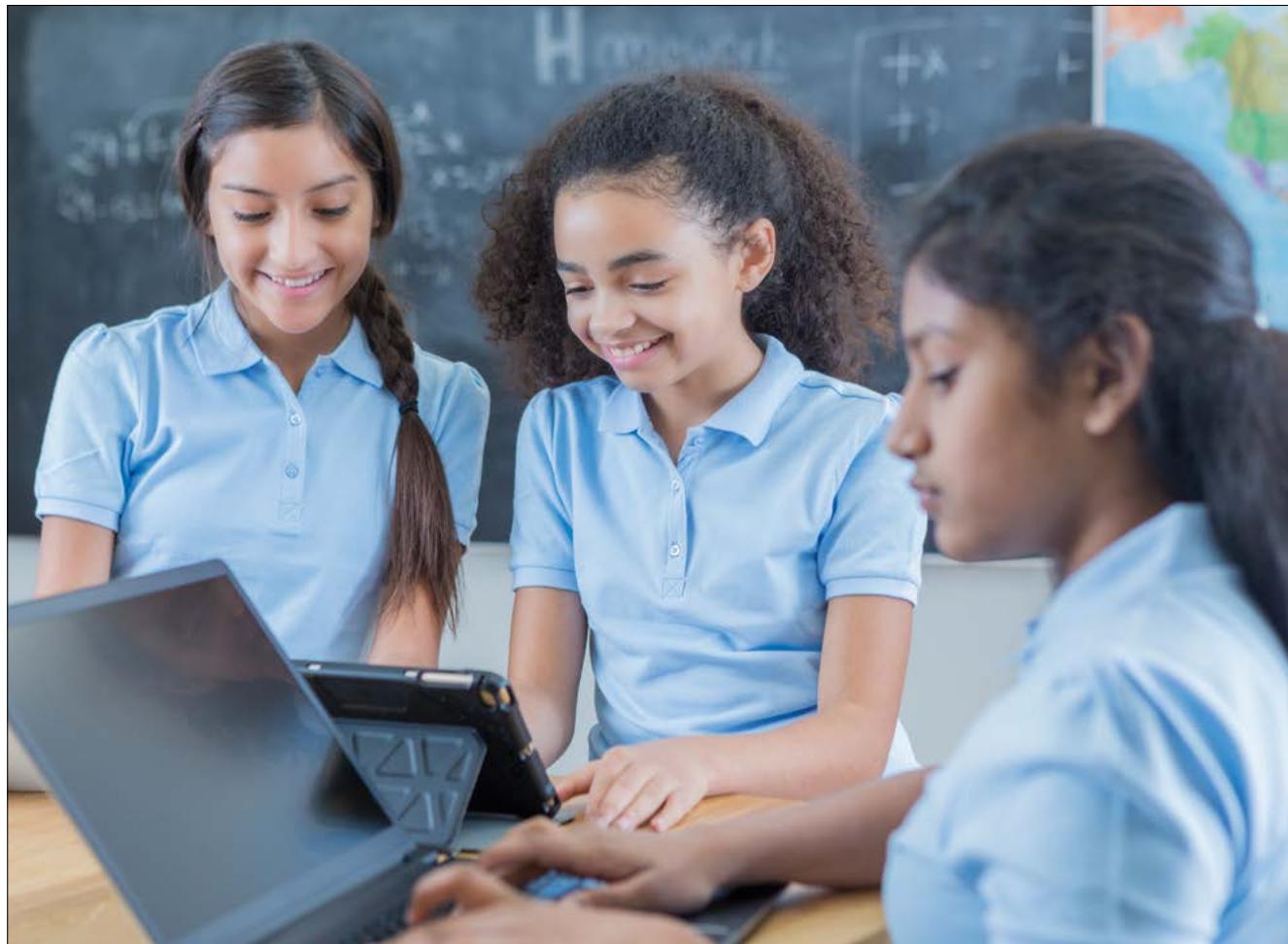
## Answers to First Aid in Mathematics

contains all the answers to the exercises in the bestselling **First Aid in Mathematics**.

This series provides all the help and support for learning and practising mathematics, with comprehensive coverage of core mathematical topics in clear and accessible language.



Title	ISBN	Language
First Aid in Mathematics Colour Edition	9781444193794	English
Answers to First Aid in Mathematics	9781444121803	English



# Step into Science

## Senior Phase Resource Book for Practical Activities



### Features of the book



#### Links to the curriculum

The activities link to Specific Aim 1 'Doing science' in the CAPS for Senior Phase Natural Sciences Grade 7–9.

#### Assessment tools and guidelines

Assessment tools and guidelines including rubrics where relevant and a marking memorandum are included for each worksheet.

#### The nature of science

A table is provided that summarises the nature of science and how people gain knowledge to understand and explain the natural world through science.

#### An introduction to practical work

An introduction to practical work that explains the purpose and aim of practical work, the scientific process, and the process skills which should be developed through practical work. A table is provided that summarises the steps of the scientific and related processes and inquiry skills.

## Step into Science



Senior Phase  
Resource Book  
for Practical Activities

Portia Kaval  
Jeanette Marchant  
Kimera Moodley  
Mmapaseka Stephen

#### List of scientific terminology

A list of scientific terminology with explanations is included in each worksheet which encourages the learners to use the language of science. Teachers need to model this in order for learners to recognise, understand and use the vocabulary.

#### Photocopiable worksheets

There is a photocopiable worksheet for each practical task. The worksheet provides a format for the learners to follow instructions to plan and/or conduct the investigations, record observations and findings and make conclusions. The worksheet also encourages safety during practical work by asking learners to suggest safety precautions.

#### Guidelines to safety when doing practical work

Science is all about hands-on learning, and is full of interesting lessons and fun experiments. However it also poses some unique dangers and safety hazards for learners. Teachers should have knowledge of and understand safety issues to enable them to anticipate, recognise, control, and eliminate any possible dangers and hazards. This section provides comprehensive notes on safety when doing practical work.

#### Practical activities

There are two activities for each knowledge strand for each grade. This gives the teacher a choice of eight well-designed practical activities per year that can be used for informal (formative) assessment and for formal assessment as part of the formal Programme of Assessment.

#### Teacher support

The teacher support page indicates how each activity links to the CAPS content and concepts, as well as the required prior knowledge, the objectives, advance preparation, resources, and safety precautions.

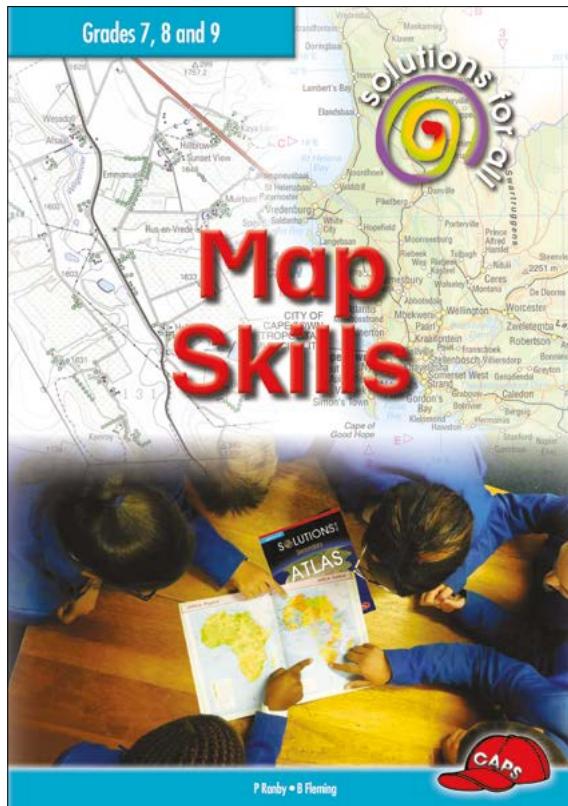
#### Resources required

Where resources as listed in the CAPS for natural sciences are not available or where resources are limited, improvised resources are suggested in the teacher support section.

Title	ISBN	Language
Step into Science Senior Phase Resource Book for Practical Activities	9781431060467	English

# Solutions for all Map Skills Grades 7, 8 and 9

**Solutions for all Map Skills** is an exciting, CAPS-aligned guide for geography learners in Grades 7, 8 and 9. Its content has been developed by teachers, examiners and lecturers who have an intimate knowledge of the geographical skills and techniques section of the CAPS geography curriculum.



This book provides learners with instruction and guidance supported by a range of practice activities to help them develop competence in the following areas:

- Mapwork skills and techniques
- Atlas use
- Satellite images
- Aerial photographs
- 1:50 000 topographic maps
- Orthophoto maps

## Key features

- Simple **definition** of key terms, as well as explanations of the **key concepts** related to each topic
- Opportunities to **apply** and integrate map skills with the geography topics outlined in the CAPS curriculum
- Useful **tips** to help with exam questions
- **Exercises** to practise and develop specific skills
- Clear, **step-by-step** explanations of how to master the skills associated with specific topics
- A selection of grade-specific assessment questions, including **sample exam papers**

## Sample pages

**Topic 2: Orthophoto maps**

**Important words**

**Topographic map** a detailed map that shows natural features, especially relief and water, and human-made features such as roads and urban areas

**Spot height** a dot and a number on a map or orthophoto map to show height in metres, e.g. 69

An orthophoto map looks like a vertical aerial photograph (VAP) with some map features marked on it, particularly contour lines, place names and heights.

An orthophoto map of a part of southern Johannesburg, Gauteng

**Useful tips**

- Always check the position of the height numbers given on contour lines. If the numbers are the same, go up then the slope is descending in the direction of the numbers, that is, up the slope towards higher ground.
- When the numbers are upside down, the slope is descending towards lower ground.

**Section E**

**Key concepts**

- An orthophoto map contains elements of a VAP and a topographic map.
- An orthophoto map has an accurate scale of 1:10 000 for all parts of the image.
- Height is shown using **spot heights** and contour lines.
- Orthophoto maps may be in colour or black and white.
- Contour lines are spaced at regular intervals of one metre (1 m) intervals. Only some of the contour lines have height numbers marked on them.
- Orthophoto maps display the following information: place names, road names, place names, power lines, and constructed features such as schools and police stations.
- Cartographers use VAPs to make orthophoto maps. They connect the scale on a VAP to make it accurate for every point on the image.

**Key skill 1: How to interpret an orthophoto map**

1. The pattern made by contour lines helps to identify landscape features such as hills, valleys, spurs and slopes.
2. The spacing of contour lines (how far apart they are) shows the gradient of a slope, i.e. is it steep or shallow.
3. The shape and size of shadows on orthophoto maps provide clues about the height of buildings and the steepness of mountain slopes.
4. Colour, spot heights and contour lines all help to emphasise the relief of the land. Together these techniques help you to identify landscape features.
5. Dark colours or shades are usually used for these features: rivers, deep water, dense vegetation, rivers, a wetland, ploughed fields.
6. Lighter colours or shades are usually used for these features: shallow or muddy water, sand, roads, foot paths, exposed soil.
7. Straight or even lines generally represent features that people have created, such as roads, paths, fences, walls and field boundaries.
8. Natural features such as mountains, rivers, lakes and coasts have uneven or irregular shapes.
9. Large buildings may be schools, factories, blocks of flats or shopping centres.
10. Informal settlements normally have an irregular street pattern. Buildings may have different sizes. There are often winding paths between the buildings.

**Practice questions** [13 marks]

Study the extracts A, B and C from the orthophoto maps on page 92.

1. Identify the highest point on Map A. (1)
2. Suggest a height for the contour lines between points X and Y in Map A. (2)
3. Imagine you are looking at the hills from point Z. In which direction is the river in Map B flowing? Give two pieces of evidence to support your answer. (2)
4. Describe the gradient close to the river in Map B. (2)
5. Suggest a height for the contour lines at P and at Q in Map C. (2)
6. Identify steep and gentle slopes on each of the orthophoto maps A, B and C. (6)

**Grade 8**

**Revision questions**

**Maps, atlases and scale**

**Total: 100 marks**

1. Consider the three maps A, B and C.

**A**

**B**

**C**

**Practice questions** [13 marks]

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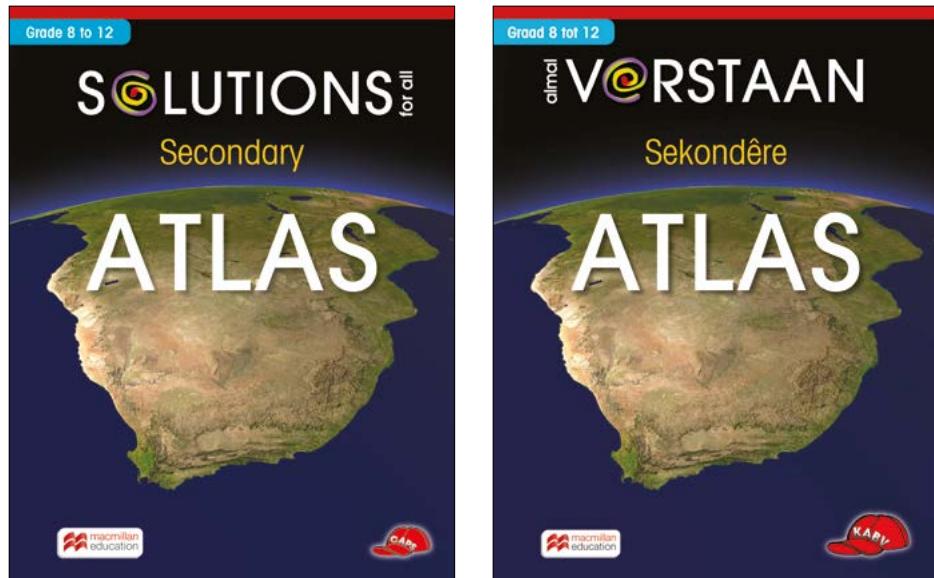
Title	ISBN	Language
Solutions for all Map Skills Grades 7, 8 and 9	9781431030934	English

# Solutions for all Secondary Atlas



**Solutions for all Secondary Atlas** is the ideal atlas for Grade 8 to 12 learners. It is aligned with the CAPS curriculum and reflects all the recent place name and border changes. It offers everything one would expect from a school atlas, as well as:

- an index with cross references to old place names
- content that was compiled with the main recurring themes of the CAPS in mind
- modern cartographic design
- detailed maps of places in the world that often feature in the news, e.g. South-East Asia, the Middle East
- full-colour glossy paper throughout
- a map skills section
- maps, full-colour photographs, statistical data, and explanations in easy-to-read and learner-friendly language.



Title	ISBN	Language
Solutions for all Secondary Atlas Grade 8 to 12	9781431032952	English
Almal verstaan Sekondêre Atlas Graad 8 tot 12	9781431032969	Afrikaans



# Guidelines Grammar for the Senior Phase Study Guides

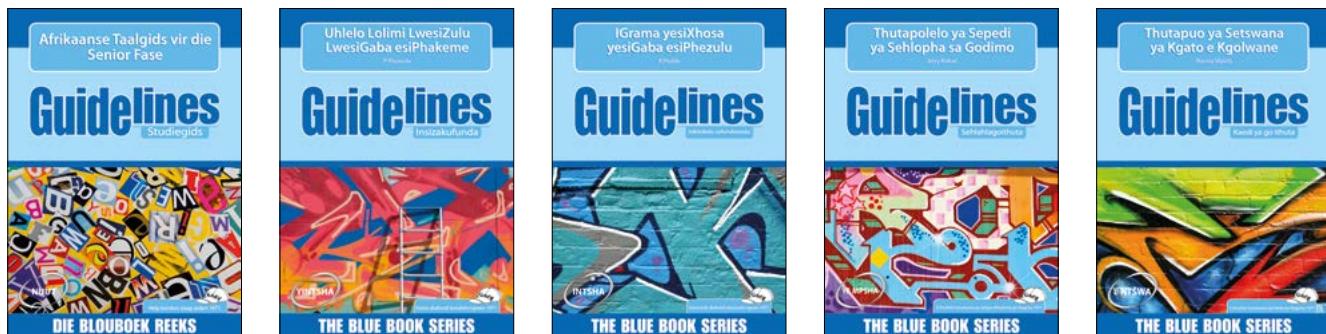
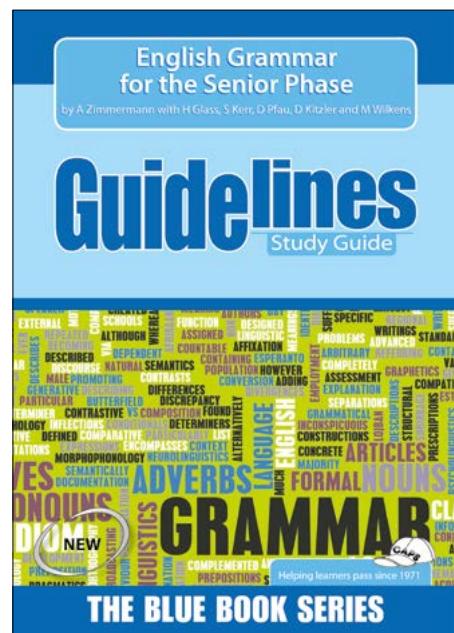
CAPS ALIGNED

eBOOK AVAILABLE

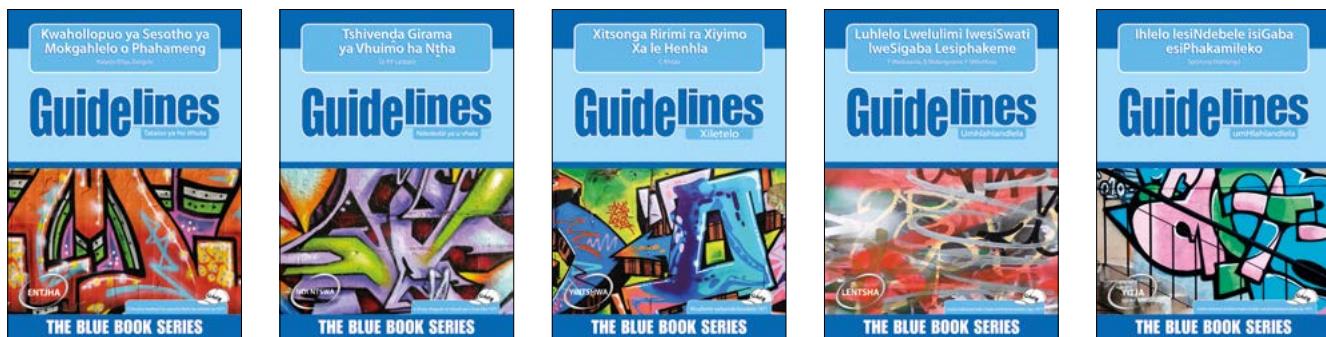
The **Blue Book Series** has been helping learners pass since 1971.

There is a new set of **Grammar Guidelines for the Senior Phase**. These are CAPS compliant and easy to use. They offer brief, clear explanations of every grammatical construct, in simple language. Each topic is explained clearly and simply, with the aid of suitable examples. In addition to this useful reference material, there are practice activities for each topic, as well as solutions to the activities at the end of each study guide. Senior Phase learners will find these study guides an invaluable tool in preparing for tests, exams, or for completing classwork and homework tasks.

These study guides can be used by learners studying Home Language or First Additional Language.



Title	ISBN	Language
English Grammar for the Senior Phase	9781431050147	English
Afrikaanse Taalgids vir die Senior Fase	9781431050154	Afrikaans
Uhlelo lolimi IwesiZulu IwesiGaba esiPhakeme	9781431050161	isiZulu
IGrama yesiXhosa yesiGaba esiPhezulu	9781431050178	isiXhosa
Thutapolelo ya Sepedi ya Sehlopha sa Godimo	9781431050185	Sepedi
Thutapuo ya Setswana ya Kgato e Kgolwane	9781431050192	Setswana
Kwahollopuo ya Sesotho ya Mokgahlelo o Phahameng	9781431050208	Sesotho
Tshivenda Girama ya Vhuimo ha Ntha	9781431050215	Tshivenda
Xitsonga Ririmia ra Xiyimo xa le Henhla	9781431050222	Xitsonga
Luhlelo Lwelulwimi IwesiSwati IweSigaba Lesiphakeme	9781431050239	Siswati
Ihlelo lesiNdebele isiGaba esiPhakamileko	9781431050246	isiNdebele



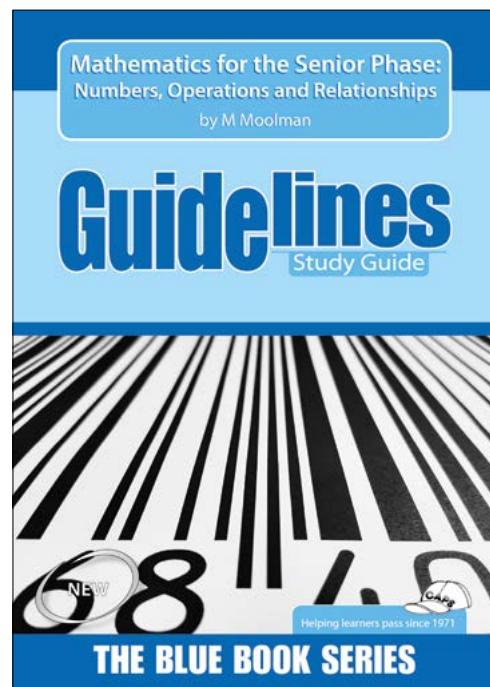
# Guidelines Mathematics for the Senior Phase Study Guides

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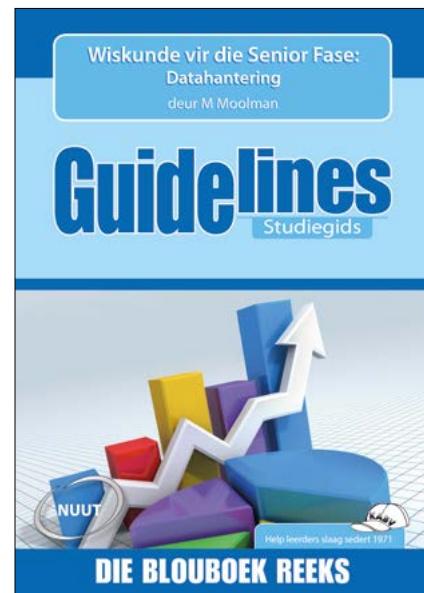
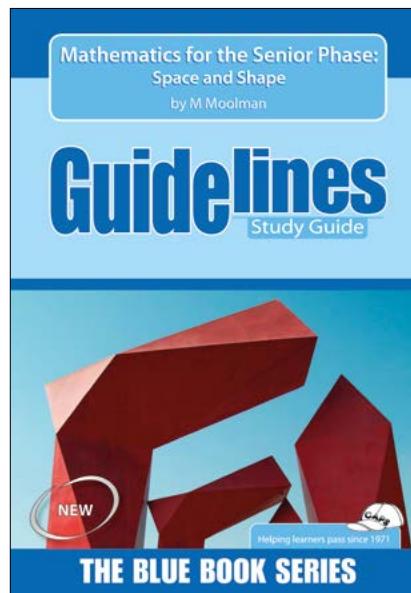
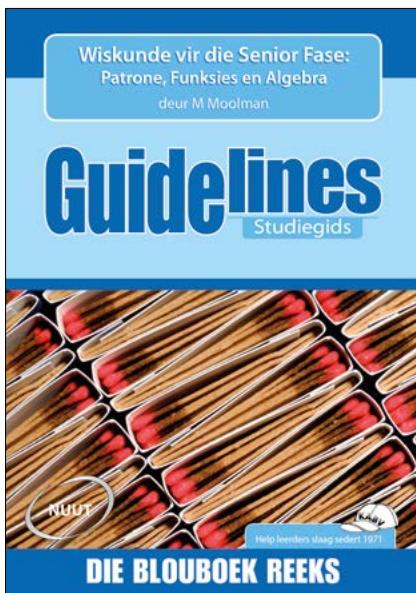
eBOOK AVAILABLE

The new **Guidelines Mathematics for the Senior Phase** consists of a set of 5 study guides, one for each learning area of the Senior Phase curriculum. They are CAPS compliant and easy to use. Each study guide offers brief, clear explanations of each maths topic and outlines of all concepts. There are summaries that are easy to understand, as well as definitions of difficult terms. Apart from offering frequent examples with solutions, each study guide also provides lots of questions and answers to help you prepare for exams, and a handy section for note-taking.

Each **Mathematics for the Senior Phase** study guide is also available in Afrikaans.

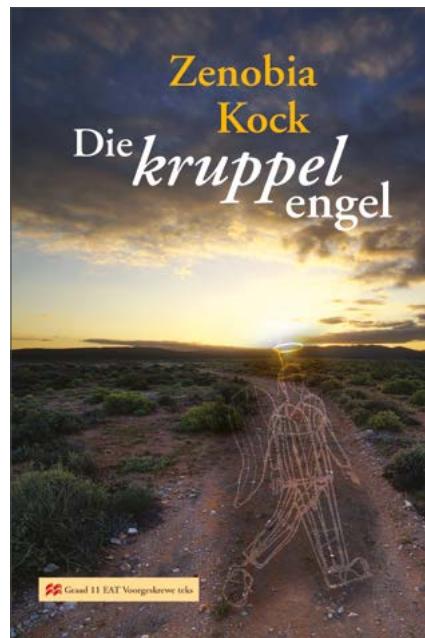
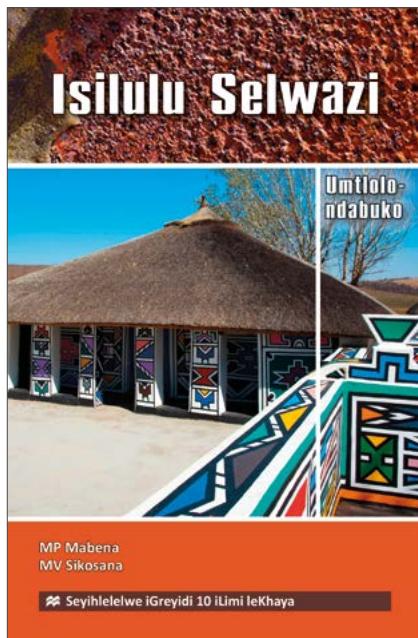
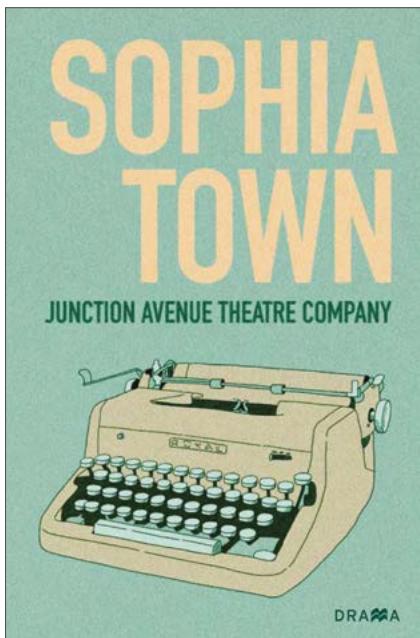


Title	ISBN	Language
<b>Mathematics for the Senior Phase</b>		
Numbers, Operations and Relationships	9781431050048	English
Patterns, Function and Algebra	9781431050055	English
Space and Shape	9781431050062	English
Measurement	9781431050079	English
Data Handling	9781431050086	English
<b>Wiskunde vir die Senior Fase</b>		
Getalle, Bewerkingen en Verwantskappe	9781431050093	Afrikaans
Patrone, Funksies en Algebra	9781431050109	Afrikaans
Ruimte en Vorm	9781431050116	Afrikaans
Meting	9781431050123	Afrikaans
Datahantering	9781431050130	Afrikaans

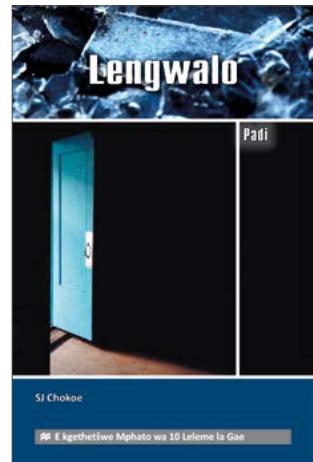
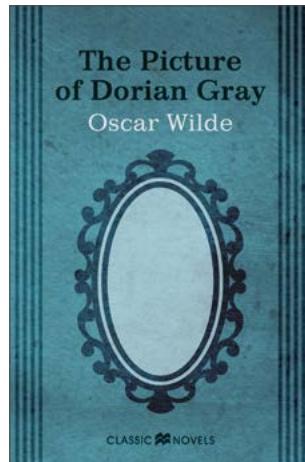
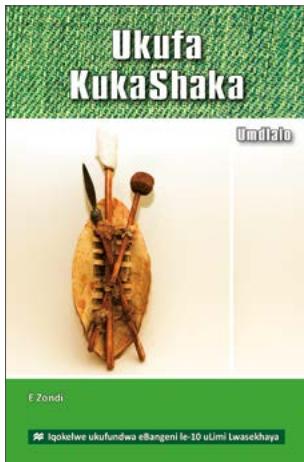


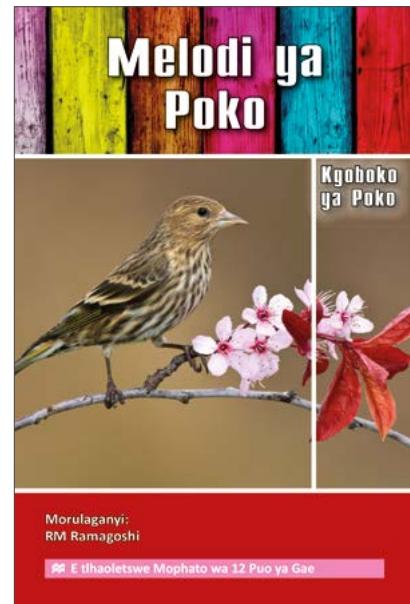
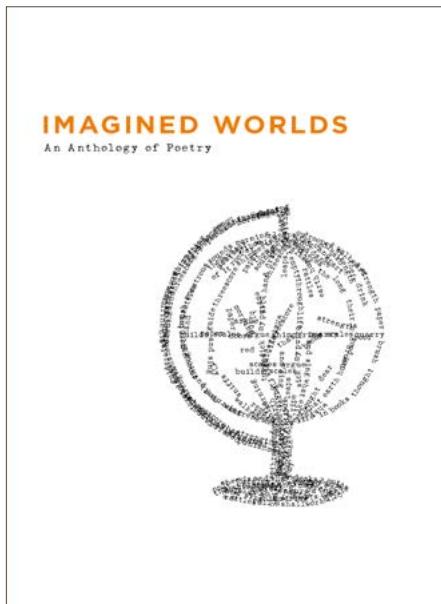
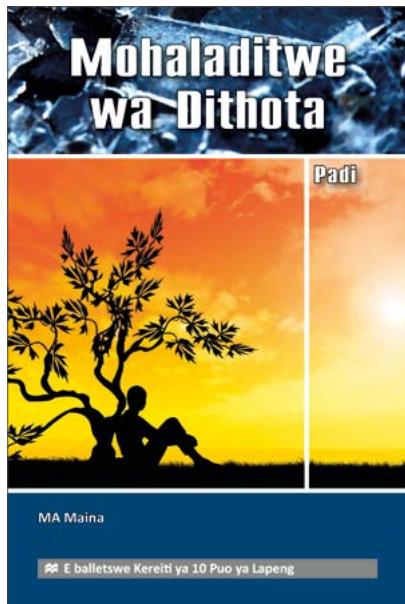


## FET Phase (Grades 10–12)

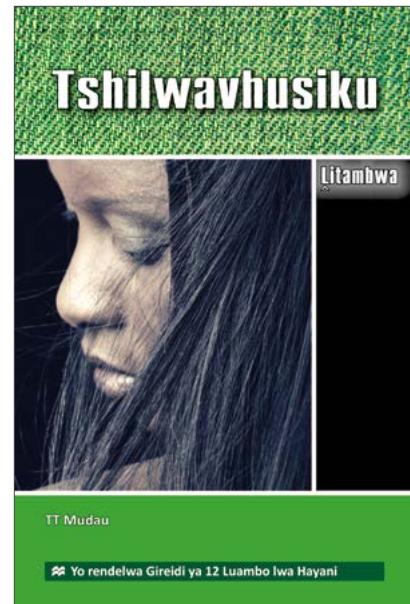
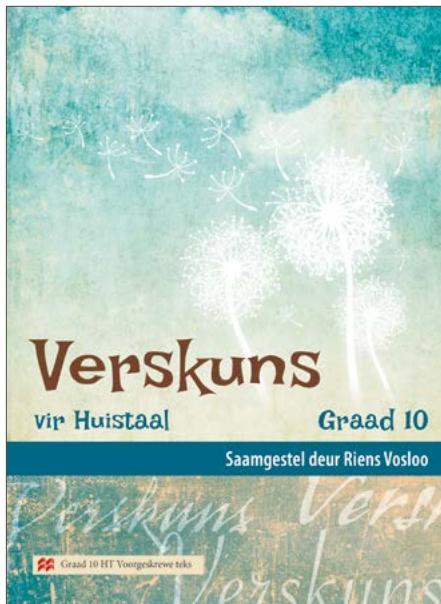
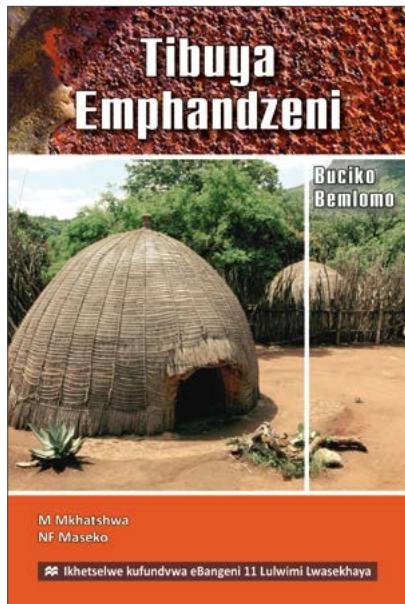


Title	ISBN	Grade	Language	Genre
<b>English</b>				
Imagined Worlds: An Anthology of Poetry	9781431037285	12	English Home Language	Poetry Anthology
The Picture of Dorian Gray	9781431037247	12	English Home Language	Classic Novel
Sophiatown	9781431037254	11	English First Additional Language	Contemporary Drama
Strange Case of Dr Jekyll and Mr Hyde	9781431037230	12	English First Additional Language	Classic novel
<b>Afrikaans</b>				
Verskuns vir Huistaal	9781431041770	10	Afrikaans Huistaal	Bloemlesing
Die kruppel engel	9781431039722	11	Afrikaans Eerste Addisionele Taal	Kontemporêre Roman
Die laaste karretjiegraf	9781431041763	11	Afrikaans Eerste Addisionele Taal	Kontemporêre Drama
Spieëlbeeld	9781431039715	12	Afrikaans Eerste Addisionele Taal	Kortverhaal bundel
Verskuns vir Eerste Addisionele Taal	9781431041787	12	Afrikaans Eerste Addisionele Taal	Bloemlesing
<b>isiNdebele</b>				
Isilulu Selwazi	9781431029228	10	isiNdebele ILimi leKhaya	Umtlolo-ndabuko
Imilozana Yokudumisa	9781431029174	11	isiNdebele ILimi leKhaya	Ibuthelelo leenkondlo
UBonakele	9781431026913	12	isiNdebele ILimi leKhaya	Inovela yarje
<b>isiXhosa</b>				
Indla' Inamanyala	9781431028610	12	isiXhosa ULwimi lwaseKhaya	Umdlalo weqonga wexesha langoku



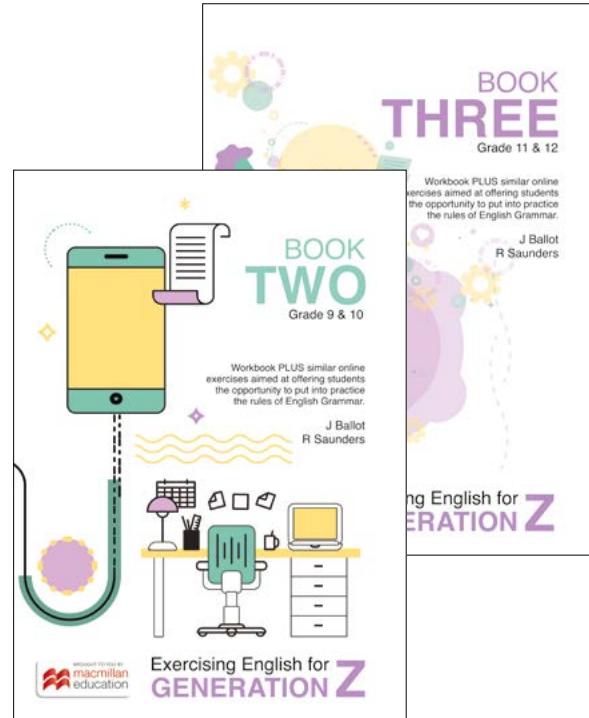
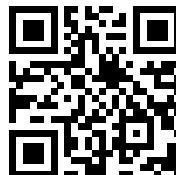


Title	ISBN	Grade	Language	Genre
<b>isiZulu</b>				
Ukuva KukaShaka	9781431028627	10	isiZulu ULimi IwaseKhaya	Umdlalo ongasoze wabuna
<b>Sepedi</b>				
Lengwalo	9781431026890	10	Sepedi Leleme la Gae	Padi ya klasiki
Bokgoni bja Basadi	9781431029068	11	Sepedi Leleme la Gae	Tiragatšo ya sebjalebjale
<b>Sesotho</b>				
Mohaladitwe wa Dithota	9781431026883	10	Sesotho Puo ya Lapeng	Padi ya sejwalejwale
Malefane	9781431028641	11	Sesotho Puo ya Lapeng	Tshwantshiso ya sejwalejwale
Melodi ya Thothokiso	9781431029143	12	Sesotho Puo ya Lapeng	Pokello ya Dithothokiso
<b>Setswana</b>				
Melodi ya Poko	9781431029136	12	Setswana Puo ya Gae	Kgoboko ya Poko
<b>Tshivenda</b>				
Tshiltwahusiku	9781431029099	12	Tshivenda Luambo Iwa Hayani	Litambwa ja kilasiki
<b>Siswati</b>				
Tibuya Emphandzeni	9781431029211	11	Siswati Lulwimi Lwasekhaya	Buciko bemlomo
<b>Xitsonga</b>				
Ntsandzavalayi	9781431029105	10	Xitsonga Ririmi ra le Kaya	Ntlangu ya manguva lawa



# Exercising English

The remastered editions of this well-loved language title are the perfect resources for learning and teaching English for Generation Z. These grade-specific titles offer a comprehensive selection of English exercises which provides learners with lots of practice of the rules of English language. An exciting new feature is that the workbooks are supported by online content which offers additional theory as well as interactive activities to reinforce what was studied. All aspects of language learning are covered in each book and they include proficiencies such as visual literacy and summaries. This series gives the teacher the tools she needs to ensure that learners practice and grasp all concepts while actively engaging with the content and having fun doing so.



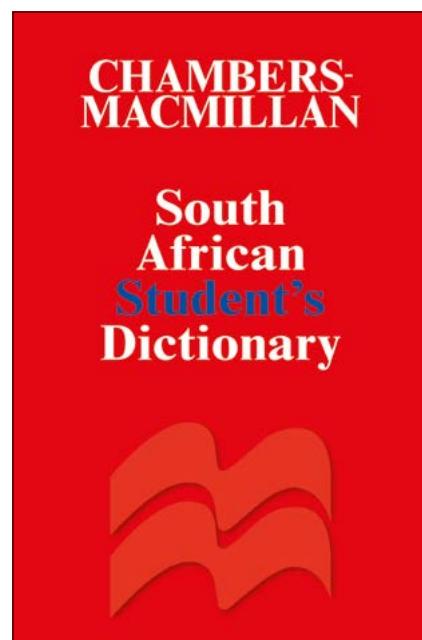
Title	Grade	ISBN
Exercising English for Generation Z Book 2	Grades 9–10	9780639827322
Exercising English for Generation Z Book 3	Grades 11–12	9780639827346

## Chambers-Macmillan South African Student's Dictionary

The *Chambers-Macmillan South African Student's Dictionary* has intensive step-by-step treatment of the most frequently used words in the English language. With 50 000 examples of real, everyday English from South African sources supported by the British National Corpus, and South African English content developed in association with the English Language Teaching Information Centre (ELTIC), it is essential for any learner.

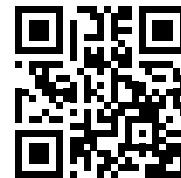
### The dictionary includes:

- Full-sentence definitions that show the headword in context
- Thousands of synonyms and antonyms to help pinpoint meaning
- Plurals of nouns, comparative and superlative forms of adjectives and verb parts, which are always shown in full
- Grammar, register and subject labels which are given in full
- Pronunciation of each headword using the international phonetic alphabet
- Useful appendices on abbreviations, letter writing and punctuation



Title	ISBN	Language
Chambers-Macmillan South African Student's Dictionary	9780797805477	English

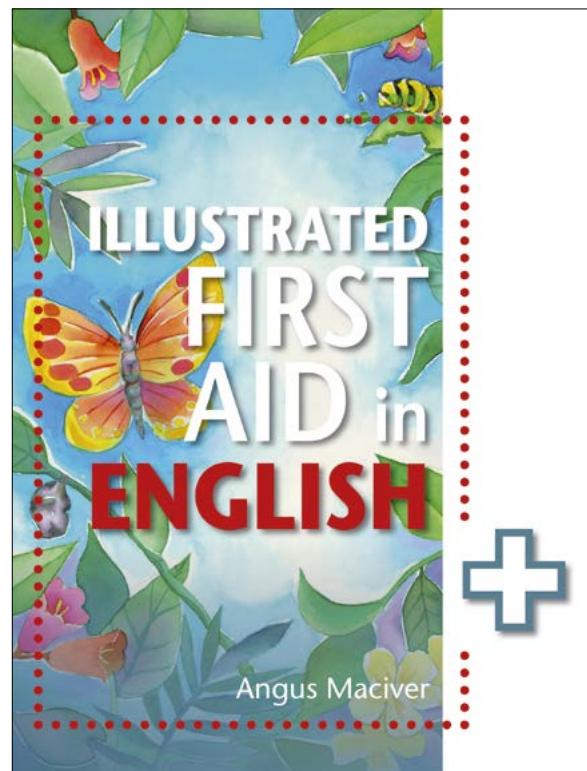
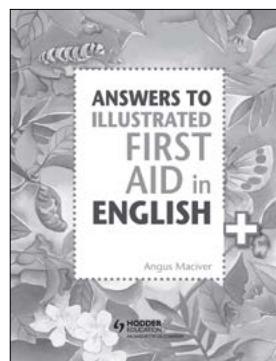
Die nuwe **Kliek Werkboeke** bied 'n gemengde studie benadering tot onderrig en leer van Eerste Addisionele Taal Afrikaans. Die reeks bied vier nuwe graad spesifieke werkboeke vir Graad 8, 9, 10 en 'n gekombineerde werkboek vir 11 & 12. Die reeks laat leerders toe om hulle vaardighede in Afrikaans te verbeter en om op hulle eie pas te werk om die aktiwiteite in die werkboek en aanlyn te voltooi.



Titel	Graad	ISBN
Kliek Digitale Afrikaanse Werkboek vir Generasie Z: Eerste Addisionele Taal Graad 10	Graad 10	9780639827360
Kliek Digitale Afrikaanse Werkboek vir Generasie Z: Eerste Addisionele Taal Graad 11 & 12	Graad 11 & 12	9780639827339

## Illustrated First Aid in English

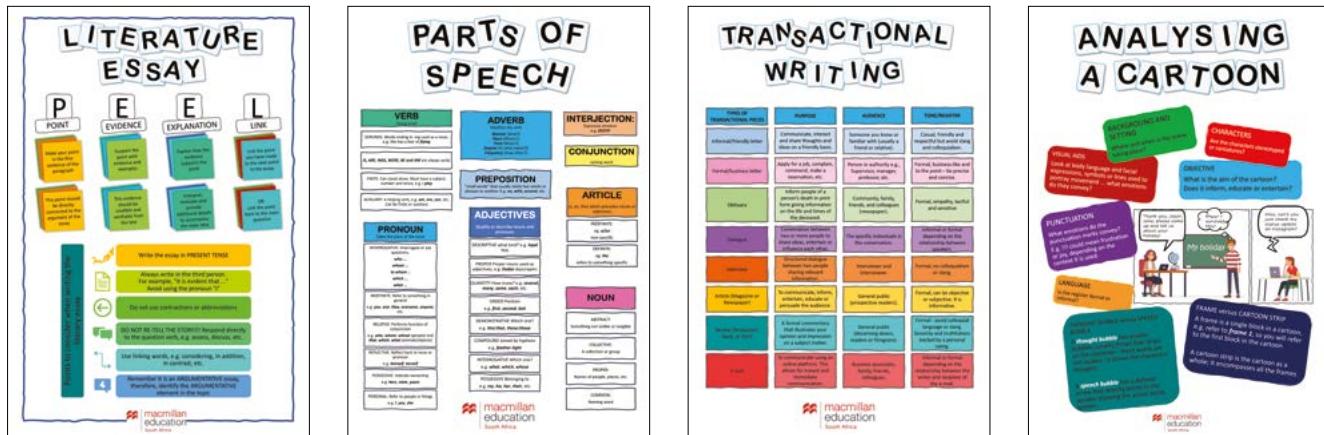
**Illustrated First Aid in English** provides all the help and support needed for learning and practising English. It offers a comprehensive guide to all aspects of the English language including idiom, everyday usage and formal syntax. It is suitable for both English Home Language and First Additional Language and can be used in class, or as a reference and revision book.



Title	ISBN	Language
Illustrated First Aid in English	9781471859984	English
Answers to Illustrated First Aid in English	9781471875076	English

# Posters for the Grade 8–12 English Language Classroom

Create a print-rich classroom



## Features:

- 10 x A1 CAPS aligned laminated posters
- Each poster addresses a specific problem area experienced in the English language classroom
- These posters allow for continual subconscious learning, as learners are exposed to the information on the poster displayed on the classroom walls
- These visually pleasing, uncluttered posters make it easy for learners to understand and retain difficult concepts

## Poster topics:

- ✓ Co-ordinating conjunctions
- ✓ Instructional words
- ✓ Advertising
- ✓ Literature essay
- ✓ Parts of speech
- ✓ Punctuation
- ✓ Transactional writing
- ✓ Transactional templates
- ✓ How to analyse a poem
- ✓ Analysing a cartoon

Did you know that 65% of people worldwide find visual learning more effective, therefore, a poster is one of the best ways to ensure that your learners grab these language concepts fast and easily.

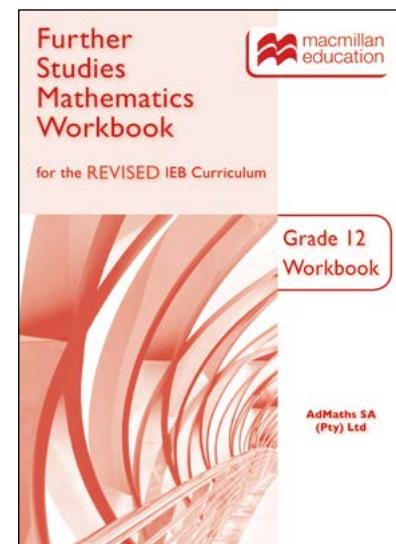
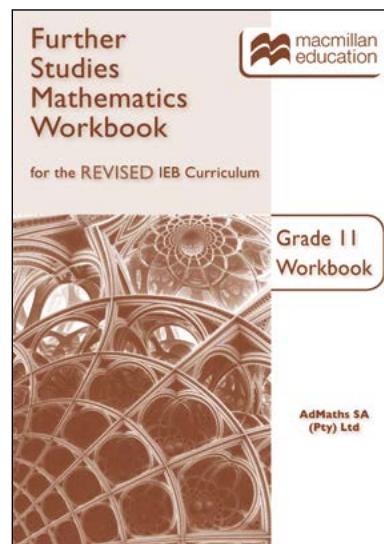
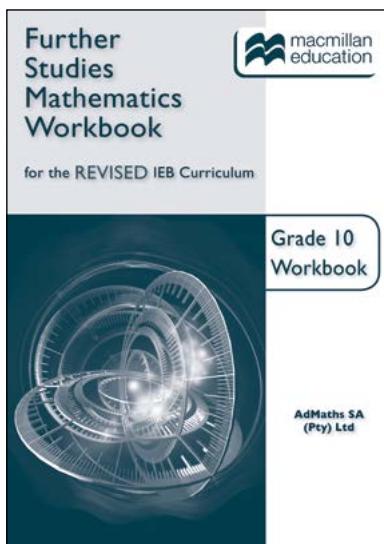
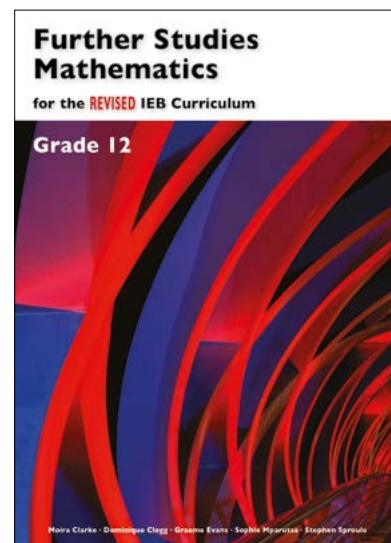
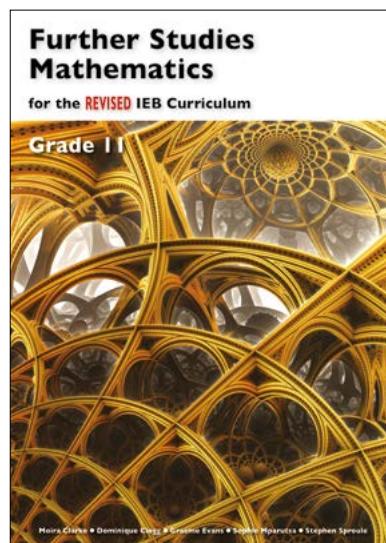
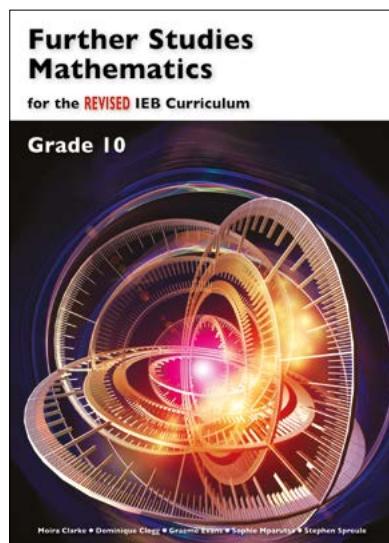
Title	ISBN	Language
Posters for the Grade 8–12 English Language Classroom	9781779972149	English

# Further Studies Mathematics for the Revised IEB Curriculum



**Further Studies Mathematics Grades 10–12 for the Revised IEB Curriculum** was written by some of the most experienced Mathematics teachers in South Africa including Moira Clarke, Graeme Evans and Dr Stephen Sproule. The books cover all the material in the curriculum, adopt a lively, learner-friendly tone and provide topical contexts, wherever this is possible. All the solutions appear at the end of each book. The books are available in hard copy and in eBook format.

Help your learners excel in Further Studies Mathematics by setting them lots of practice opportunity with the all new **Further Studies Mathematics Workbooks**. These titles, which partner with the **Further Studies Mathematics for the Revised IEB Curriculum Learner's Books**, are the perfect tool to allow optimal practice in order to achieve excellence.



Title	Component	ISBN	Language
Further Studies Mathematics for the Revised IEB Curriculum Grade 10	Learner's Book	9781431052967	English
Further Studies Mathematics for the Revised IEB Curriculum Grade 10	Workbook	9781431053056	English
Further Studies Mathematics for the Revised IEB Curriculum Grade 11	Learner's Book	9781431052998	English
Further Studies Mathematics for the Revised IEB Curriculum Grade 11	Workbook	9781431053063	English
Further Studies Mathematics for the Revised IEB Curriculum Grade 12	Learner's Book	9781431053025	English
Further Studies Mathematics for the Revised IEB Curriculum Grade 12	Workbook	9781431053070	English

# FET Mathematics Posters

Make learning come to life! Are you looking for new ways to captivate your learners' attention and enhance their understanding of Mathematics? Our vibrant, curriculum-aligned posters are the perfect tools for engaging young minds, simplifying complex concepts, and creating a classroom environment that inspires curiosity!

**NEW!**

# Trigonometric ratios

The three trigonometric ratios are  $\sin \theta$ ,  $\cos \theta$  and  $\tan \theta$ , where  $\theta$  is an angle of any right-angled triangle

## Three trigonometric ratios

$$\sin \theta = \frac{\text{opposite}}{\text{hypotenuse}} = \frac{y}{r}, \quad \cos \theta = \frac{\text{adjacent}}{\text{hypotenuse}} = \frac{x}{r}, \quad \tan \theta = \frac{\text{opposite}}{\text{adjacent}} = \frac{y}{x}$$

Signs of the ratios

The CAST Diagram

In the diagram below  $P(x; \sqrt{3})$  is a point on the Cartesian plane such that  $OP = 2$ .  $Q(a; b)$  is a point such that  $TQ = \alpha$  and  $OQ = 20$ .  $\hat{P}OQ = 90^\circ$ .

1. Calculate the value of  $x$ .
2. Hence, calculate the size of  $a$ .
3. Determine the coordinates of  $Q$ .

Possible solutions

$$x^2 + y^2 = r^2 \quad (\text{Pythagoras})$$

$$x^2 + (\sqrt{3})^2 = 2^2$$

$$x^2 = 4 - 3$$

$$x = 1$$

$$2, \sin \hat{P}OQ = \frac{\sqrt{3}}{2}$$

$$\hat{P}OQ = 60^\circ$$

$$\hat{P}OQ = 90^\circ - 60^\circ$$

$$\alpha = 30^\circ$$

$$8, \sin(-30^\circ) = -\frac{1}{2}$$

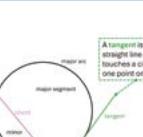
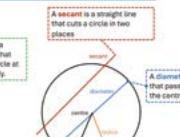
$$20 \sin(-30^\circ) = -10$$

$$\cos(-30^\circ) = \frac{\sqrt{3}}{2}$$

$$20 \cos(-30^\circ) = 10\sqrt{3} = 17.32$$

$$Q(17.32, -10)$$

Chapter 10  
Trigonometric ratios

<h1>Parts of a circle</h1>	
 <p><b>A tangent</b> is a straight line that touches a circle at one point only.</p>	 <p><b>A secant</b> is a straight line that cuts a circle in two places.</p> <p><b>A diameter</b> is a chord that passes through the centre of a circle.</p>
 <p><b>A chord</b> is a straight line that joins two points on the circumference of a circle.</p>	 <p><b>A radius</b> is a line joining the centre of a circle to a point on the circumference. Any radius is half the length of a diameter.</p>
 <p><b>Not supplementary:</b> Three angles lie on a straight line.</p>	 <p><b>Supplementary:</b> Two angles add up to <math>180^\circ</math>.</p>
 <p><b>Not supplementary:</b> Co-interior angles. But no parallel lines.</p>	 <p><b>Supplementary:</b> Two angles add up to <math>180^\circ</math>.</p>
 <p><b>Not supplementary:</b> Three angles add up to <math>180^\circ</math>.</p>	 <p><b>Supplementary:</b> Two angles add up to <math>180^\circ</math>.</p>

# Exponential equations

## How to solve exponential equations?

If  $a^x = a^y$  then  $x = y$

If bases are the same, equate the exponents

If  $a^x = b^y$  then  $a = b$

If exponents are the same, equate bases

**Simple equations**

Solve for  $x$ :  $5 \cdot 2^{1-x} = 80$

$$2^{1-x} = 16 \quad \text{divide both sides by } 5$$

$$2^{1-x} = 2^4 \quad \text{write } 16 \text{ as } 2^4$$

$$1 - x = 4 \quad \text{equate exponents}$$

$$x = -3 \quad \text{substitute for } 1-x$$

**Simple rational equations**

Solve for  $x$ :  $4 \cdot x^{-\frac{1}{3}} = 16$

$$x^{-\frac{1}{3}} = 4 \quad \text{divide both sides by } 4$$

$$x^{-\frac{1}{3}} = 2^3 \quad \text{write } 4 \text{ as } 2^2$$

$$x = 2^{3 \cdot -\frac{1}{3}} \quad \text{multiply exponents}$$

$$x = \frac{1}{8} \quad \text{substitute for } x^{-\frac{1}{3}}$$

**Equations with quadratics**

Solve:  $2^{2m} - 3 \cdot 2^m - 4 = 0$

Let  $2^m = k$

$$k^2 - 3k - 4 = 0$$

substitution

$$(k-4)(k+1) = 0 \quad \text{factorise}$$

$$k = 4 \text{ or } k = -1 \quad \text{invalid}$$

$$2^m = 2^4 \quad \text{substitute for } k$$

$$m = 4 \quad \text{inverse of } \frac{1}{2}$$

**Complex rational equations**

Solve:  $x^{\frac{2}{3}} - 2x^{\frac{1}{3}} - 15 = 0$

$$(x^{\frac{1}{3}} - 5)(x^{\frac{1}{3}} + 3) = 0$$

$$x^{\frac{1}{3}} = 5 \text{ or } x^{\frac{1}{3}} = -3 \quad \text{factorise}$$

$$x = 5^3 \text{ or } x = (-3)^3$$

$$x = 125 \text{ or } x = -27 \quad \text{inverse of } \frac{1}{3}$$

## Why teachers love our posters

## Visual Learning Made Simple

Tired of learners struggling with abstract ideas in Maths? Our posters break down difficult concepts into easy-to-understand visuals. Each poster is designed to boost comprehension and retention by appealing to visual learners. Let the power of images enhance your teaching!

## Instant Classroom Engagement

Transform your walls into learning tools! With eye-catching designs and clear, concise content, our posters draw learners' attention, making them more likely to engage with the material. No more plain, uninspiring walls – each poster serves as a silent teacher, sparking curiosity, interest, and meaningful discussions in the classroom.

## Aligned with Your Curriculum

Our posters aren't just decorative – they're purposeful. We work closely with education professionals to ensure that every poster is aligned with CAPS and your classroom needs. Whether explaining the laws of physics or visualising algebraic equations, our posters reinforce your daily lessons, helping learners connect theory with practice.

## Time-Saving Resource

Imagine having a resource that reinforces key concepts whenever a learner looks at the wall. No need to constantly reteach or remind them – our posters serve as constant visual cues, saving you valuable time for more hands-on learning activities.

# Financial Mathematics

Interest is also paid on savings and on loans.

Interest is paid on the principal amount and on the interest already paid.

**Simple Interest**

$$\text{Simple interest} = P \times R \times T$$

**Compound Interest**

$$\text{Compound interest} = P \times (1 + R)^T$$

**Interest**

Interest is also paid on savings and on loans.

Interest is paid on the principal amount and on the interest already paid.

**Example**  
Hilmi deposits RM2 000 into a savings account, the principal amount is RM2 000, the rate is 5% p.a. simple interest. Calculate the total amount in the savings account at the end of seven years.

$$\text{A} = P + I = P + P \times R \times T$$

$$\text{A} = 20000 + 20000 \times 0.05 \times 7$$

$$\text{A} = 20000 + 7000$$

$$\text{A} = RM27 000$$

**Example**  
Hilmi deposits RM2 000 into a savings account, the principal amount is RM2 000, the rate is 5% p.a. compound interest and the interest is compounded annually. Calculate the total amount in the savings account at the end of seven years.

**Solution:**

$$\text{A} = P \times (1 + R)^T$$

$$\text{A} = 20000 \times (1 + 0.05)^7$$

$$\text{A} = 20000 \times 1.05^7$$

$$\text{A} = 20000 \times 1.407$$

$$\text{A} = RM28 140$$

## Depreciation

Depreciation is normally calculated in two different ways, depending on the type of asset.

**Straight line depreciation**

Formula:  $A = P(1 - t)^n$

- $A$  is the value of the asset after depreciation.
- $P$  is the original value of the asset.
- $t$  is the number of years after the asset was purchased.
- $n$  is the rate of depreciation per annum of the asset.

**Example**

A company buys a front-end loader at a cost of  $R1 000 000$ . The company expects to sell it for  $R250 000$  in  $5$  years. Calculate the annual rate of depreciation if the depreciation is determined on a reducing balance.

$A = 720 000, \quad P = R1 000 000;$

$t = 0.25 \quad n = 3$

$A = 720000 \times 1.000000(1 - t)^n$

$720000 = 1.000000(1 - t)^3$  (Substituting)

Divide by  $1.000000$  on both sides

$720000 = 1.000000(1 - t)^3$

$(1 - t)^3 = \frac{720000}{1.000000}$

$1 - t = \sqrt[3]{0.72}$  (Take the 4th root of 0.4)

$t = 0.2047 \dots = 20.47\%$

## Reducing balance depreciation

Formula:  $A = P(1 - t)^n$

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- $P$  is the original value of the asset.
- $t$  is the number of years after the asset was purchased.
- $n$  is the rate of depreciation per annum of the asset.

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$720000 = 1.000000(1 - t)^3$  (Substituting)

Divide by  $1.000000$  on both sides

$720000 = 1.000000(1 - t)^3$

$(1 - t)^3 = \frac{720000}{1.000000}$

$1 - t = \sqrt[3]{0.72}$  (Take the 4th root of 0.4)

$t = 0.2047 \dots = 20.47\%$

### General solution of equations

The statement giving ALL the solutions to a trigonometric equation is called general solution of the equation.

**Example**  
Determine the general solution:  $\sin x = \frac{1}{2}$

Given  $\sin \theta = a$ .  
All possible solutions are given by the general solution:  
 $\theta = \sin^{-1} a + k \cdot 360^\circ$   
 $\theta = (180^\circ - \sin^{-1} a) + k \cdot 360^\circ$  (k  $\in \mathbb{Z}$ )

Given  $\cos \theta = a$ .  
All possible solutions are given by the general solution:  
 $\theta = \pm \cos^{-1} a + k \cdot 360^\circ$  (k  $\in \mathbb{Z}$ )

Given  $\tan \theta = a$ .  
All possible solutions are given by the general solution:  
 $\theta = \tan^{-1} a + k \cdot 180^\circ$  (k  $\in \mathbb{Z}$ )

### Surd equations

✓ By definition  $\sqrt{x}$  is positive or zero. Keep this in mind when solving equations involving surds.

When solving surd equations, it is important that you always check your final answers. This is because squaring both sides of the equations may have introduced false solutions.

**Solve:  $\sqrt{3x+4} - 5 = 0$**   
Get the square root on 1 side then square both sides  
 $\sqrt{3x+4} = 5$   
 $(\sqrt{3x+4})^2 = 5^2$  square both sides  
 $3x+4 = 25$  simplify  
 $x = 7$  valid

**Solve:  $2\sqrt{x-3} - x = -3$**   
Get the square root on 1 side then square both sides  
 $(\sqrt{2x+6})^2 = (x-3)^2$   
 $x^2 - 4x - 5 = 0$   
 $(x-5)(x+1) = 0$  factorise  
 $x = 5$  or  $x = -1$  invalid  
Only  $x = 5$  is a valid solution.  
Check this for Yourself.

### Angles greater than $360^\circ$ and negative angles

Angles greater than  $360^\circ$ : For angles greater than  $360^\circ$ , subtract  $360^\circ$  until you have an angle in the interval  $[0^\circ, 360^\circ]$ . For example,  $\sin 618^\circ = \sin(618^\circ - 360^\circ) = \sin 258^\circ$ .

Negative angles: For negative angles, add  $360^\circ$  until you have an angle in the interval  $[0^\circ, 360^\circ]$ . For example:  $\sin(-40^\circ) = \sin(-40^\circ + 360^\circ) = \sin 320^\circ$ .

Reduction formulae:  $90^\circ + \theta$

$\sin(90^\circ + \theta) = \cos \theta$   
 $\cos(90^\circ + \theta) = -\sin \theta$   
 $\tan(90^\circ + \theta) = -\tan \theta$

The signs of ratios of the angle  $(-40^\circ)$  are the same as those in the CAST diagram for quadrant 4.

$\sin(-\theta) = -\sin \theta$   
 $\cos(-\theta) = \cos \theta$   
 $\tan(-\theta) = -\tan \theta$

**Simplify WITHOUT using a calculator:**

$$\begin{aligned} & \sin 120^\circ \cos 110^\circ \tan 115^\circ \cos 270^\circ \\ &= \sin(180^\circ - 60^\circ) \cos(180^\circ + 10^\circ) \tan(180^\circ - 65^\circ) \cos(180^\circ - 42^\circ) \\ &= \sin 60^\circ \cdot -\cos 10^\circ \cdot -\tan 65^\circ \cdot \cos 42^\circ \quad (\text{Reduce to acute angles}) \\ &= \frac{\sqrt{3}}{2} \cdot \cos 10^\circ \cdot \frac{1}{\cos 65^\circ} \cdot \cos 42^\circ \\ &= \frac{\sqrt{3}}{2} \cdot \frac{\cos 10^\circ}{\cos 65^\circ} \cdot \cos 42^\circ \quad (\text{Use a calculator to find angles}) \\ &= \frac{\sqrt{3}}{2} \cdot -1 \cdot 0.71 \quad (\text{Simplify}) \\ &= -\frac{\sqrt{3}}{4} \end{aligned}$$

### Euclidean Geometry

(pack of 7 x A1 posters)

- Parts of a circle
- Circle centre theorems (2 posters)
- Circle chords theorems (2 posters)
- Cyclic quadrilateral theorems
- Tangents theorems

### Exponents & Surds

(pack of 5 x A1 posters)

- Exponents and surds
- Simplifying exponents
- Exponential equations
- Simplifying surds
- Surd equations

### Financial Maths

(pack of 8 x A1 posters)

- Financial Mathematics
- Interest rates (2 posters)
- Interest rates – Timelines (2 posters)
- Nominal and effective interest rates
- Depreciation (2 posters)

### Trigonometry

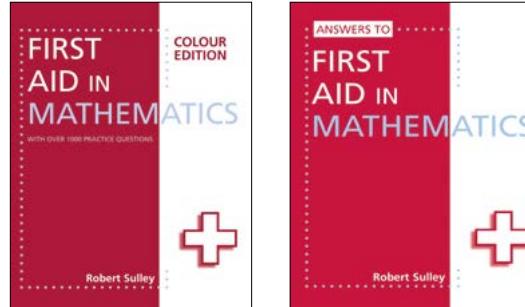
(pack of 5 x A1 posters)

- Trigonometric ratios
- Trigonometric identities
- Reduction formulas
- Angle greater than  $360^\circ$  and negative angles
- General solution of equations

Title	ISBN	Language
Euclidean Geometry (pack of 7 x A1 posters)	9781779979483	English
Exponents & Surds (pack of 5 x A1 posters)	9781779979582	English
Financial Maths (pack of 8 x A1 posters)	9781779979681	English
Trigonometry (pack of 5 x posters)	9781779978851	English

# First Aid in Mathematics

For more information on **First Aid in Mathematics** see page 7 of this catalogue.



# Step into Science

CAPS  
ALIGNEDTEACHER  
RESOURCE

## FET Resource Books for Practical Activities

### Features of the books

#### Links to the curriculum

The activities link to Sections 2.5 and 2.7 on practical work in the CAPS for Physical Sciences Further Education and Training Phase Grades 10–12.

#### Assessment tools and guidelines

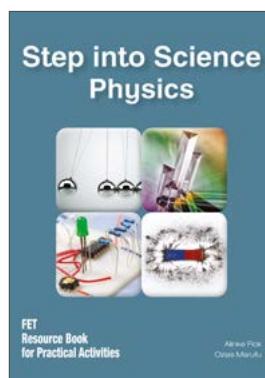
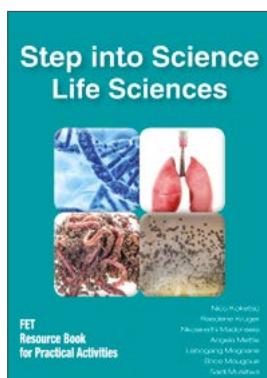
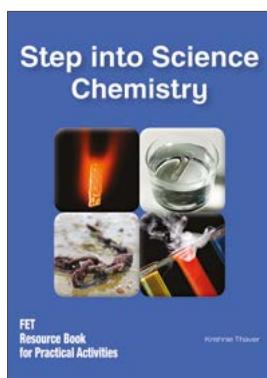
Assessment tools and guidelines including rubrics where relevant and a marking memorandum are included for each worksheet.

#### The nature of science

A table is provided that summarises the nature of science and how people gain knowledge to understand and explain the natural world through science.

#### List of scientific terminology

A list of scientific terminology with explanations is included in each worksheet which encourages the learners to use the language of science. Teachers need to model this in order for learners to recognise, understand and use the vocabulary.



Title	ISBN
Step into Science Chemistry FET Resource Book for Practical Activities	9781431060573
Step into Science Life Sciences FET Resource Book for Practical Activities	9781431060566
Step into Science Physics FET Resource Book for Practical Activities	9781431060580

#### Photocopiable worksheets

There is a photocopiable worksheet for each practical task. The worksheet provides a format for the learners to follow instructions to plan and/or conduct the investigations, record observations and findings and make conclusions. The worksheet also encourages safety during practical work by asking learners to suggest safety precautions.

#### An introduction to practical work

An introduction to practical work that explains the purpose and aim of practical work, the scientific process, and the process skills which should be developed through practical work. A table is provided that summarises the steps of the scientific and related processes and inquiry skills.

#### Guidelines to safety when doing practical work

Science is all about hands-on learning, and is full of interesting lessons and fun experiments. However it also poses some unique dangers and safety hazards for learners. Teachers should have knowledge of and understand safety issues to enable them to anticipate, recognise, control and eliminate any possible dangers and hazards. This section provides comprehensive notes on safety when doing practical work.

#### Practical activities

There are one or two activities for each knowledge area for each grade. This gives the teacher a selection of well-designed practical activities per year that can be used for informal (formative) assessment and formal assessment as part of the Programme of Assessment.

#### Resources required

Where resources as listed in the CAPS for physical sciences are not available or where resources are limited, improvised resources are suggested in the teacher support section.

#### Teacher support

The teacher support page indicates how each activity links to the CAPS content and concepts, as well as the required prior knowledge, the objectives, advance preparation, resources and safety precautions.

# FET Physical Sciences Posters



Make learning come to life! Are you looking for new ways to captivate your learners' attention and enhance their understanding of Physical Sciences? Our vibrant, curriculum-aligned posters are the perfect tools for engaging young minds, simplifying complex concepts, and creating a classroom environment that inspires curiosity!

## Electric circuits: Ohm's Law

**V = IR**  
According to Ohm's Law, current flow is **increased by voltage** and **decreased by resistance** at constant temperature.

**Ohmic Resistors:** The resistance remains constant regardless of the applied voltage or current, so the graph of voltage versus current is a **straight line**.

**Non-Ohmic Resistors:** These resistors exhibit a **curve** in their voltage versus current graph, indicating resistance variation due to factors like temperature, material properties, or device type.

**Factors causing resistance variation in ohmic and non-ohmic conductors**

- Temperature of a conductor
- Type of material
- Length of a conductor
- Surface area of a conductor

## The mole

Mole is the **SI unit** used to measure the amount of a substance.

It refers to a quantity that contains  $6.022 \times 10^{23}$  particles, such as atoms, molecules, ions, or electrons.

One mole is described as the **amount of substance** having the same number of particles as there are atoms in 12 g of carbon-12.

How do you find the number of atoms, molecules or particles using mole?

The mole allows chemists to count particles by weighing them, as it's impractical to count individual atoms or molecules due to their incredibly small size.

For example: 1 mole of carbon (C) contains  $6.022 \times 10^{23}$  carbon molecules, and it weighs approximately 12 grams.

1 mole of carbon atoms = 12 grams  $6.022 \times 10^{23}$  atoms

## Application

What mass of **carbon dioxide** forms in the **reaction** of 25 grams of glucose with 40 grams of oxygen from a respiration process?

$C_6H_{12}O_6 + 6O_2 \rightarrow 6CO_2 + 6H_2O + \text{energy}$

Every 1 mole of glucose ( $C_6H_{12}O_6$ ) requires 6 moles of oxygen to obtain 6 moles of carbon dioxide and 6 moles of water.

**Step 1**  $C_6H_{12}O_6$        $\text{O}_2$        $CO_2$        $H_2O$   
 $1 \text{ mol}$        $1 \text{ mol}$   
 $25 \text{ g} \times \frac{1 \text{ mol}}{180.06 \text{ g}}$        $40 \text{ g} \times \frac{1 \text{ mol}}{32 \text{ g}}$   
 $= 0.1388 \text{ mol}$        $= 1.25 \text{ mol}$

**Step 2** From the ratio 1:6  
 $6C_6H_{12}O_6 : 6CO_2$   
 $1.25 \text{ mol } O_2 : x \text{ mol } CO_2$   
 $\frac{6}{1.25} = \frac{6}{x}$   
 $x = 1.25 \times \frac{6}{6} = 1.25 \text{ mol } CO_2$

**Step 3** Given 0.1388 mol; Given 1.25 mol;  
 we need 0.208 mol; we need 0.8328 mol

**Step 4** Limiting reactant: Excess reactant  
 $\text{Ratio } 1:6$   
 $6CO_2 = 0.1388 \times 6$   
 $m = 0.8328 \text{ mol}$   
 $m(O_2) = 0.8328 \times 44$   
 $= 36.6432 \text{ g}$

**Step 5** Calculate how much is in excess. If necessary  
 $1.25 - 0.8328 = 0.4172 \text{ mol}$

## Why teachers love our posters

### Visual Learning Made Simple

Tired of learners struggling with abstract ideas in Science? Our posters break down difficult concepts into easy-to-understand visuals. Each poster is designed to boost comprehension and retention by appealing to visual learners. Let the power of images enhance your teaching!

### Instant Classroom Engagement

Transform your walls into learning tools! With eye-catching designs and clear, concise content, our posters draw learners' attention, making them more likely to engage with the material. No more plain, uninspiring walls – each poster serves as a silent teacher, sparking curiosity, interest, and meaningful discussions in the classroom.

### Aligned with Your Curriculum

Our posters aren't just decorative – they're purposeful. We work closely with education professionals to ensure that every poster is aligned with CAPS and your classroom needs. Whether explaining the laws of physics or visualising algebraic equations, our posters reinforce your daily lessons, helping learners connect theory with practice.

### Time-Saving Resource

Imagine having a resource that reinforces key concepts whenever a learner looks at the wall. No need to constantly reteach or remind them – our posters serve as constant visual cues, saving you valuable time for more hands-on learning activities.

## Newton's First law of motion

**Newton's First Law** states that a body remains in a uniform motion unless acted upon by a net external force, which is the vector sum of all forces acting on the object. An object at rest will remain at rest unless acted upon by an **unbalanced force**.

**Inertia** The tendency of an object to resist change in its motion. Whether an object is moving or at rest, every object resists any change to its motion.

Why you need to wear seat belts? Due to **inertia of motion**, a person sitting in a moving car may be pushed forward when the car stops abruptly, potentially causing damage.

The best place to test inertia is in space, why? Space lacks **external forces** like air resistance, friction, and significant gravity. Moving objects continue moving, while stationary objects remain at rest.

## Newton's third law of motion

This law states that if object A exerts a force on object B, then object B must exert a force of equal magnitude and opposite direction on object A. Mathematically,  $F_{AB} = -F_{BA}$ .

Possible answers: 1. 3. Free body diagram

Application You rest a 0.27kg empty glass on a table. You press down on the glass with 2.5N of force.

- Identify the forces acting upon the glass.
- Identify these forces with a free-body diagram.
- Are these forces equal and opposite?

$\sum F_x = m a_x$   
 $(+F_{gx}) + (-F_g) = 0.27 \text{ kg} \times 0 \text{ m/s}^2$   
 $(+F_{gx}) - (-2.7 \times 9.8) = 0$   
 $(+F_{gx}) - (-25.2) = 0$   
 $F_{gx} = 5.144 \text{ N}$

$\sum F_y = m a_y$   
 $(+F_{gx}) + (-F_{gx}) = 0$   
 $(+F_{gx}) - (-F_{gx}) = 0$

## Forces

A force is a **push or a pull**. It is measured in Newton (N).

**Contact forces** arise from physical contact.

**Action-at-a-distance forces** do not require contact and include **gravity** and **electrical forces**.

**Frictional forces** force hindering motion when the object and the surface it is sliding on touch each other.

**Gravitational force** attraction between two particles.

**Magnetic force**: A force exerted by magnets.

**Applied force**: A force that is applied to an object by a person or another object.

**Electrostatic force**: attraction or repulsion between charged particles.

**Electric Circuits**

(pack of 5 x A1 posters)

- Ohm's law
- Application of Ohm's law
- Problem solving: Series and parallel connections
- Power and energy dissipated in electric circuits
- Understanding kilowatt-hour and calculating electricity costs

**Quantitive Aspects of Chemical Change**

(pack of 6 x A1 posters)

- The mole
- Convert into moles
- Basic concepts related to mole
- Application of mole formulae
- Problem solving 2: Stoichiometry
- Application of stoichiometry

**Limiting Reactant**

(pack of 5 x A1 posters)

- Limiting reagent
- Limiting factor note sheet
- Limiting factor reagent
- Application of limiting factor reagent 1
- Application of limiting factor reagent 2

**Forces**

(pack of 5 x A1 posters)

- Types of forces
- Newton's first law of motion
- Newton's second law of motion
- Newton's third law of motion
- Forces and Newton's laws

Title	ISBN	Language
<b>Electric Circuits</b> (pack of 5 x A1 posters)	9781779979872	English
<b>Forces</b> (pack of 5 x A1 posters)	9781779979827	English
<b>Limiting Reactant</b> (pack of 5 x A1 posters)	9781779978783	English
<b>Quantitive Aspects of Chemical Change</b> (pack of 6 x A1 posters)	9781779979896	English

**First Aid in Science**

**First Aid in Science** provides all the help and support needed for learning and practising science. It offers a comprehensive guide to core topics using plain English. It can be used in class, or as a reference and revision book. This title:

- develops a strong basis of understanding with core topics covered in clear and accessible language
- improves students' ability to work through problems with plenty of practice exercises and revision tests
- reflects its international readership with terms and information that are appropriate for students worldwide.



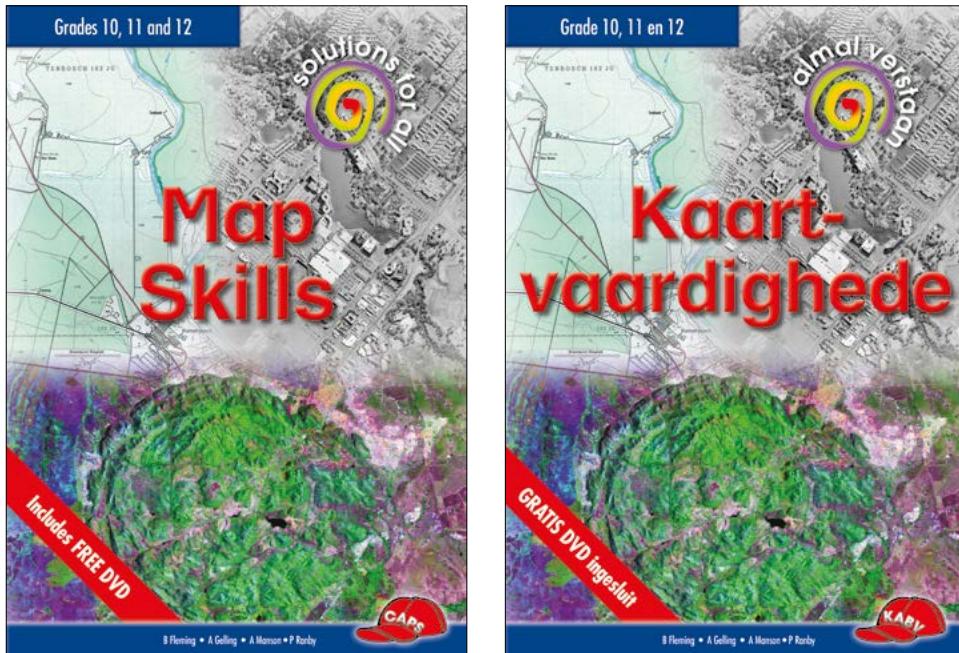
Title	ISBN	Language
First Aid in Science	9781444168914	English
Answers to First Aid in Science	9781444186451	English

# Solutions for all Map Skills

## Grades 10, 11 and 12

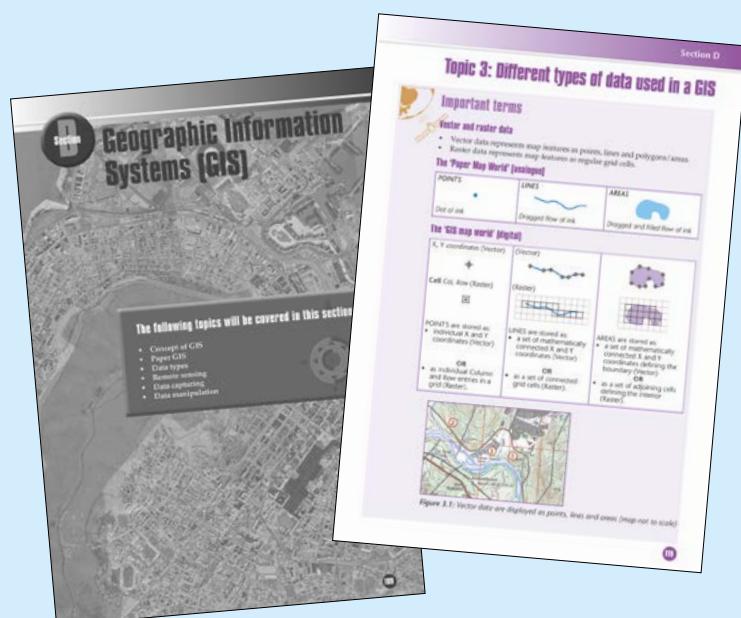
**Solutions for all Map Skills** is an exciting, CAPS-aligned guide for Grades 10 to 12 learners taking geography. Its content has been developed by teachers and trainers who have an intimate knowledge of learners' difficulties when dealing with the geographical skills and techniques section in the CAPS curriculum. It also equips teachers with all the necessary tools to teach map skills with confidence.

**Solutions for all Map Skills** includes a DVD containing GIS materials, maps and photos to enhance the learning and teaching in this guide.



### Teaching GIS

**Solutions for all Map Skills** has a section specifically dedicated to GIS written in such a way that the material and concepts can easily be understood. This section teaches GIS by first doing it on paper to get an understanding of the basic principles. Only then do learners move to the related skills, terminology and technology behind GIS.



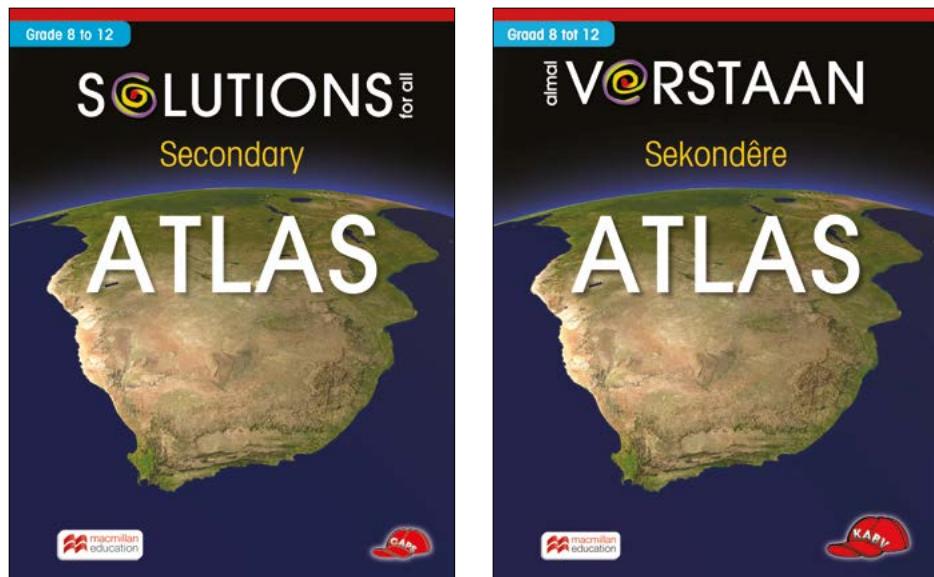
Title	ISBN	Language
Solutions for all Map Skills Grades 10, 11 and 12	9781431026845	English
Almal verstaan Kaartvaardighede Grade 10, 11 en 12	9781431037339	Afrikaans

# Solutions for all Secondary Atlas



**Solutions for all Secondary Atlas** is the ideal atlas for Grade 8 to 12 learners. It is aligned with the CAPS curriculum and reflects all the recent place name and border changes. It offers everything one would expect from a school atlas, as well as:

- an index with cross references to old place names
- content that was compiled with the main recurring themes of the CAPS in mind
- modern cartographic design
- detailed maps of places in the world that often feature in the news, e.g. South-East Asia, the Middle East
- full-colour glossy paper throughout
- a map skills section
- maps, full-colour photographs, statistical data, and explanations in easy-to-read and learner-friendly language.



Title	ISBN	Language
Solutions for all Secondary Atlas Grade 8 to 12	9781431032952	English
Almal verstaan Sekondêre Atlas Graad 8 tot 12	9781431032969	Afrikaans



# Learn Xtra Live Study Guides

CAPS  
ALIGNED

## A digital revision solution at your fingertips

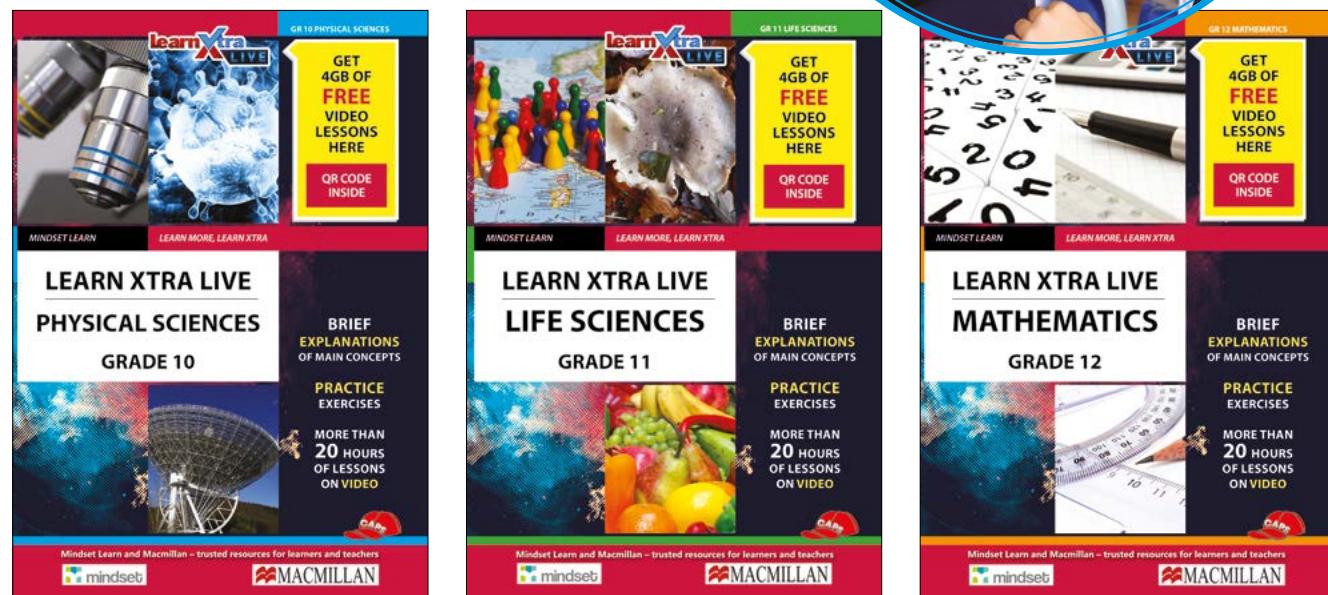
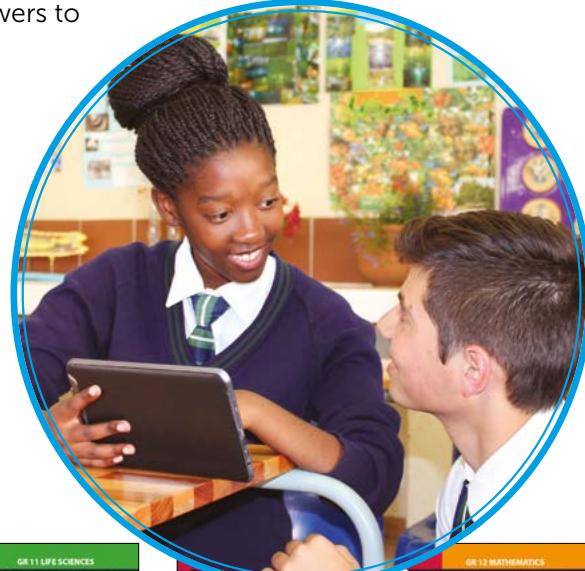
The **Learn Xtra Live Study Guides** for Grades 10–12 are a collaboration with well known TV programme **Mindset**. They offer free access to **20 hours of video footage** from **Learn Xtra Live** revision television broadcasts. The study guide contains explanations of core concepts, revision questions and examination type questions. The answers to the questions are included.

### Features

- CAPS-aligned material
- Explanations of key topics
- Study questions with answers
- Access to **20 hours** of lessons taught by expert teachers

### Benefits

- Revise at your **own pace**
- **Step-by-step** video lessons presented by a teacher



Title	ISBN	Language
Learn Xtra Live Accounting Grade 12	9781920570965	English
Learn Xtra Live Business Studies Grade 12	9781920570873	English
Learn Xtra Live Geography Grade 12	9781928233091	English
Learn Xtra Live Life Sciences Grade 10	9781920570934	English
Learn Xtra Live Life Sciences Grade 11	9781920570859	English
Learn Xtra Live Life Sciences Grade 12	9781920570880	English
Learn Xtra Live Mathematics Grade 10	9781920570910	English
Learn Xtra Live Mathematics Grade 11	9781920570842	English
Learn Xtra Live Mathematics Grade 12	9781920570958	English
Learn Xtra Live Maths Literacy Grades 10–12	9781920570903	English
Learn Xtra Live Physical Sciences Grade 10	9781920570927	English
Learn Xtra Live Physical Sciences Grade 11	9781920570941	English
Learn Xtra Live Physical Sciences Grade 12	9781920570897	English

# Guidelines Literature Guides for the FET Phase Study Guides

## Get excited about Literature!

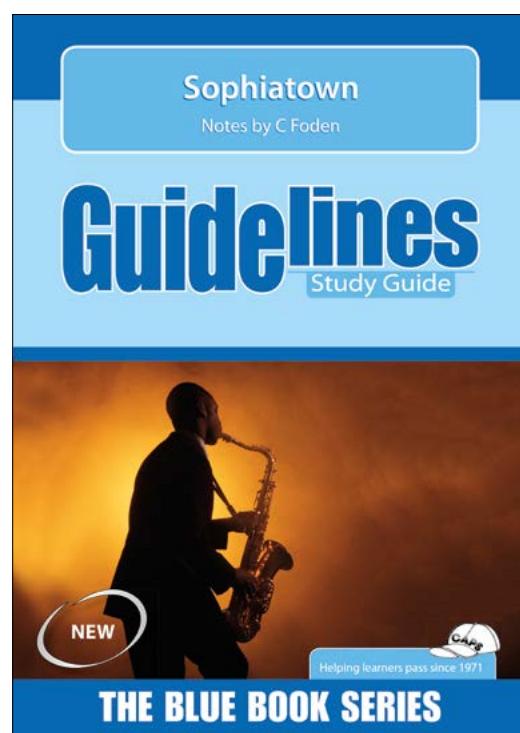
The *Guidelines* Literature Study Guides provide exam guidance and insight into major literary works, both classic and contemporary.

These comprehensive study guides include:

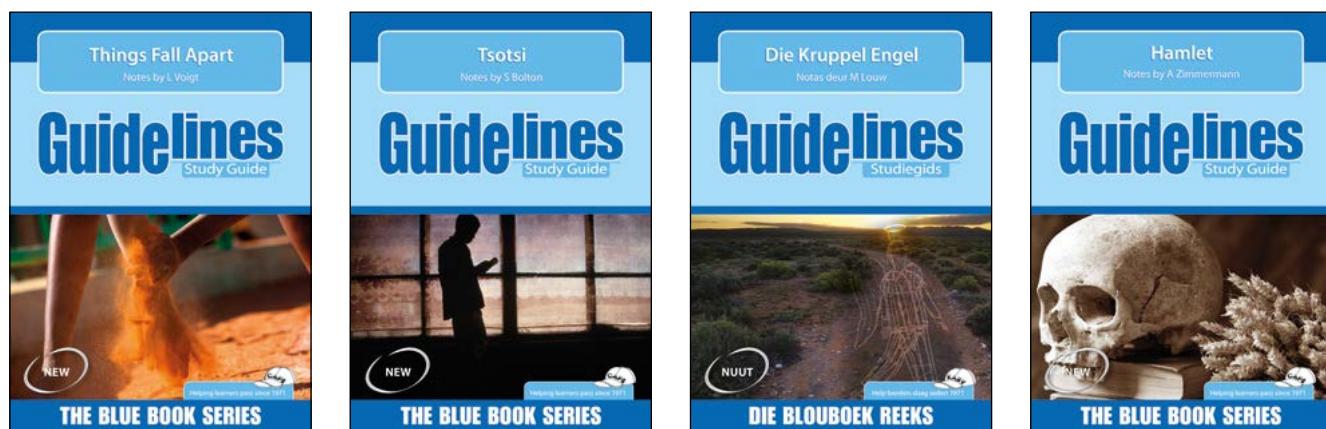
- background information
- detailed characterisation, plot elements, and language and literary devices
- list of characters and themes
- summaries of each chapter or scene
- explanations and discussions of the plot
- detailed chapter-by-chapter or scene-by-scene analysis
- guidelines on answering contextual and essay questions for examination purposes
- author or playwright biographies.

CAPS ALIGNED

eBOOK AVAILABLE



Title	Grade	ISBN	Language
Romeo and Juliet	Grade 10 HL	9781431050369	English
Die Kind	Grade 10 FAL	9781431050338	Afrikaans
Macbeth: Shakespeare for Southern Africa	Grade 11 HL	9781431050383	English
Shakespeare 2000: Merchant of Venice	Grade 11 HL	9781431050406	English
Things Fall Apart	Grade 11 HL	9781431050376	English
Tsotsi	Grade 11 HL	9781431050321	English
Droomdelwers	Grade 11 HL	9781431050277	Afrikaans
Dreaming of Light	Grade 11 FAL	9781431050291	English
Far from the Madding Crowd	Grade 11 FAL	9781431050314	English
Sophiatown	Grade 11 FAL	9781431050307	English
Die Kruppel Engel	Grade 11 FAL	9781431050260	Afrikaans
Die Laaste Karretjiegraf	Grade 11 FAL	9781431050253	Afrikaans
Hamlet	Grade 12 HL	9781431050390	English
Cry, the Beloved Country	Grade 12 FAL	9781431050352	English



For a complete list of *Guidelines* titles please contact [customerservices@macmillaneducation.co.za](mailto:customerservices@macmillaneducation.co.za).

A close-up photograph of a young woman with dark, curly hair and glasses, smiling warmly at the camera. She is wearing a white button-down shirt and holding a dark book or folder in her hands. The background is a soft-focus classroom or library setting with warm lighting.

**Teacher  
Resources &  
Assessment**

# Expert Educator Series

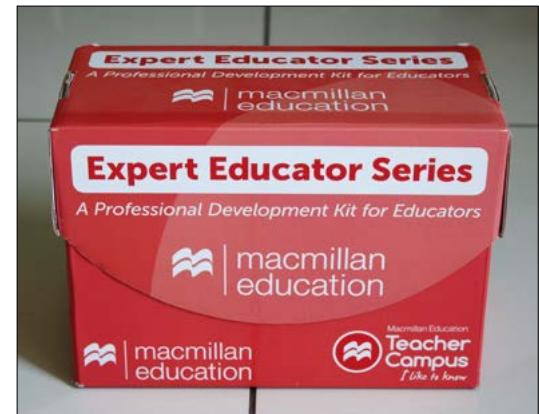


## A Professional Development Kit for Educators

- The **Expert Educator Series** is written by experienced South African educators who are experts in their respective fields.
- This series of books provides a solid base and understanding of what it means to teach in South African schools.
- All the titles in this series meet the requirements of the NCS and incorporate the principles behind the CAPS.
- The series covers a wide range of topics to equip educators with the knowledge and practical know-how to handle a variety of situations inside and outside the classroom.

### Features:

- Case studies
- Practical tips for the classroom
- Clear explanations of concepts relevant to the topic
- Learning tasks including answers



Title	ISBN
Expert Educator Series Kit	9781431046584

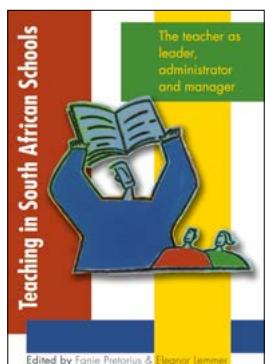


The books in the **Expert Educator Series Kit** are also available to purchase as individual titles:

Title	ISBN	Title	ISBN	Title	ISBN
Administration	9781770306103	Creating a Safe Learning Environment in Schools	9781431000012	Powerful Learning Environment	9781770306042
Career Path Development	9781770306189	Event Management and School Improvement	9781770306110	Resources	9781770306196
Classroom Management and Discipline	9781770306066	Feedback to Learners	9781770306127	Teaching Reading	9781770308312
Coaching	9781770306158	How to Assess	9781770306059	The Inclusive Educator	9781770306073
Conflict Management	9781431000029	Mentoring	9781770306141	Timetabling	9781770306226
Cooperative Learning and Group Work	9781770306080	Motivating the Learner	9781770306202	Whole School Planning	9781770306219
		Planning	9781770306233	Writing Skills	9781770306134

## Teaching in South African Schools

**Teaching in South African Schools** is a book aimed at specialists, developers of education, and practicing teachers. It deals with the educator's role as a leader, administrator and manager.

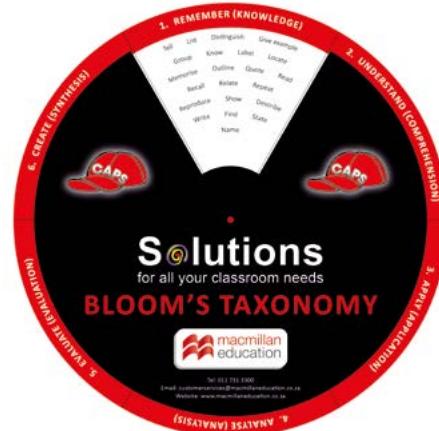


Title	ISBN
Teaching in South African Schools	9780797826625

# Bloom's and Barrett's Cognitive Levels Wheel

Unlock the full potential of your learners' minds using these powerful tools designed for educators. MTC's Bloom's Cognitive Level Wheel provides a dynamic framework to enhance critical thinking and intellectual skills, guiding your lesson plans and assessments to new heights. Complementing this, Barrett's Cognitive Level Wheel offers a roadmap for teaching and assessing language and comprehension on different cognitive levels. Empower your learners to acquire lifelong critical-thinking skills.

Title	Description	ISBN
Bloom's and Barrett's Cognitive Levels Wheel	Pack of five wheels	9781779974549



# The Writing Process/Teaching Tenses Wheel

Transform writing lessons with MTC's Writing Process Wheel!

Empower yourself to guide your learners seamlessly through the writing journey. From brainstorming to polishing final drafts, our dynamic wheel simplifies the teaching of the writing process. On the flip side of the wheel we deal with tenses. Tenses are essential for effective and clear communication, maintaining consistency and coherence, structuring narratives, and meeting the expectations of different writing contexts. Whether in academic, professional, or creative writing, a solid grasp of tenses enhances the overall quality of written expression. Master English tenses effortlessly with MTC's Tenses Wheel!

Title	Description	ISBN
The Writing Process/Teaching Tenses Wheel	Pack of five wheels	9781779974563



# English Literature Wheel

Strategies to teach different genres in your language classroom.

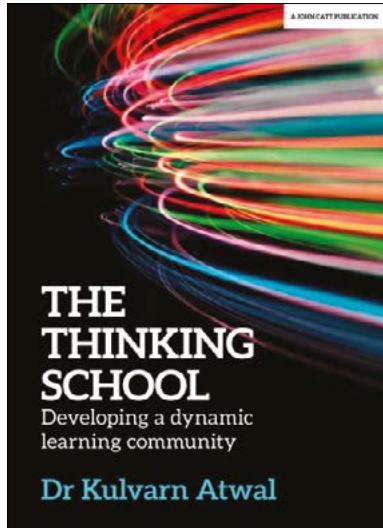
Exposure to different literature genres enriches the learning experience, offering a well-rounded education that goes beyond basic language skills. It equips learners with a deeper understanding of the world, sharpens critical thinking abilities, and prepares them for the complexities of communication in various contexts. Make teaching literature a breeze by using MTC's Literature Wheel – your essential tool for navigating and teaching various genres. Whether it's drama, film, novel, short stories, or poetry (seen and unseen), this tool gives you practical strategies to approach the teaching and assessment of the different genres.

Title	Description	ISBN
English Literature Wheel	Pack of five wheels	9781779974556



# John Catt

*Inspiring continuing professional development  
for teachers and school leaders*



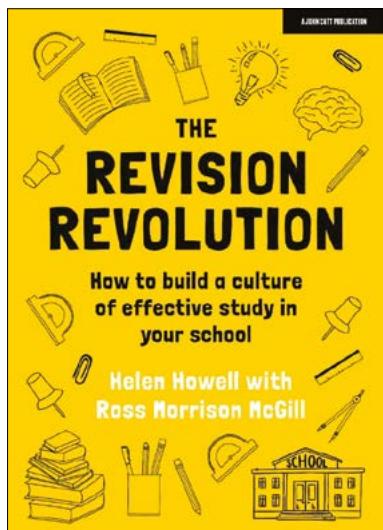
## THE THINKING SCHOOL

**Developing a dynamic learning community**

By Dr Kulvarn Atwal

ISBN: 9781912906024

In this book, headteacher and professional learning expert Dr Kulvarn Atwal presents a model that maximises both formal and informal opportunities for staff development. Through peer learning, modelling, coaching and mentoring, engagement in research and other professional growth activities, the thinking school creates a dynamic collaborative culture that permeates the entire learning community.



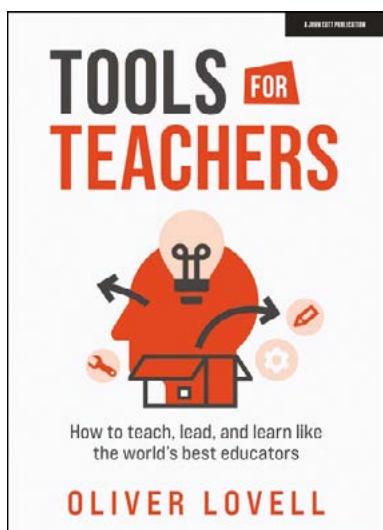
## THE REVISION REVOLUTION

**How to build a culture of effective study in your school**

By Helen Howell and Ross Morrison McGill

ISBN: 9781913622930

Have you ever wondered why your students don't revise? Or why they revise ineffectively? Often, they simply don't know how. This is where The Revision Revolution comes in. This book guides you step by step through how to start and sustain a revision revolution in your school, building a culture of effective study.



## TOOLS FOR TEACHERS

**How to teach, lead, and learn like the world's best educator**

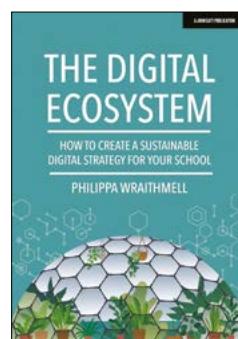
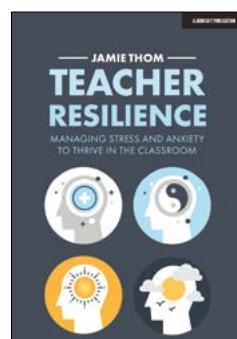
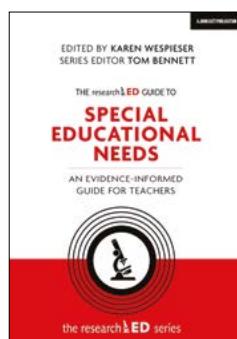
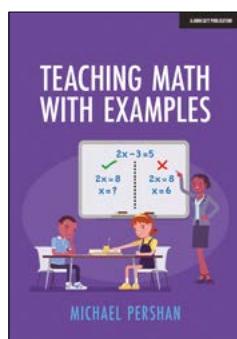
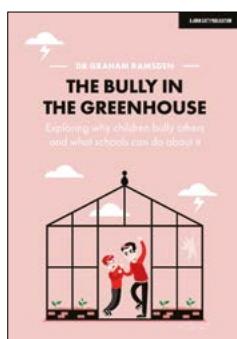
By Oliver Lovell

ISBN: 9781915261069

Over the past five years, Ollie Lovell has spoken to 60 of the world's most prominent teachers, leaders, and education researchers. This book summarises the most useful techniques, tactics and mental models from these conversations, and presents them in a clear, practical, and actionable form for you to start improving your teaching and learning.

## More John Catt titles:

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Powerful Schools: Schools as drivers of social and global mobility	9781909717848
Teaching for Motivation: Super-charged learning through 'The Invisible Curriculum'	9781909717367
The Art of Standing Out: Transforming Your School to Outstanding ... and Beyond	9781909717831
The Learning Rainforest: Great Teaching in Real Classrooms	9781911382355
An Educator's Guide to Mental Health and Wellbeing in Schools	9781911382621
Love to Teach: Research and Resources for Every Classroom	9781911382959
The Thinking School: Developing a dynamic learning community	9781912906024
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Thinking Reading: What every secondary teacher needs to know about reading	9781911382683
Teaching Secondary Science: A Complete Guide	9781913622787
Stop Talking About Wellbeing: A pragmatic approach to teacher workload	9781912906482
The Running the room companion	9781913622404
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Learning WalkThrus: Students & Parents – better learning, step by step	9781036007263
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Teaching One-Pagers: Evidence-informed summaries for busy educational professionals	9781398388659
The A-Z of Secondary Leadership	9781036005016



Scan this QR code to find out more information on all these John Catt titles.

# Access Reading Test

**NEW!**

Access Reading Tests helps compare learners aged 10–16 against their cohort at a school and national level, understand their reading skills and areas where they can improve, and provide targeted interventions throughout their education. They are available in online, interactive tests or print tests format.

**Age range covered:** Form 1 (Age 10–12); Form 2 (Age 12–14); Form 3 (Age 14–16)

**Number of Tests:** 3 sets of parallel forms (6 papers in total)

**Ideal testing time:** The assessment can be used at the beginning and the end of a period of interventions.

**Content assessed:** The New Access Reading Tests (ART) work alongside all major curricula and focus on reading ability and comprehension.

## Access our value-added reporting tool

With Access Reading Tests, automatically get access to Boost Insights, our free online enhanced reporting tool that enables successful learning experiences.

- Bulk mark results.
- Analyse at the individual or group level.
- Download reports as a spreadsheet or pdf.
- Identify gaps in learning.

By accessing valuable data for interventions, you can track impact and create successful learning experiences for every learner.

If you want to learn more about Access Reading Tests, scan the QR code to view the brochure.



**1A**

DO NOT COMPLETE THE FOLLOWING TABLE. It is for use by marksmen only.

Section	Raw score	Subtest scores
Section 1: Literal comprehension	1	Literal comprehension
Section 2: Inference	1	Section 1 = 1 + 1 = 2
Section 3: Vocabulary	1	Vocabulary
Section 4: Analysis	1	Section 2 + 1 = 2 + 1 = 3
Section 5: Literal comprehension	1	Section 3 = 1
Section 6: Inference	1	Section 4 = 1
Section 7: Analysis	1	Section 5 = 1
Section 8: Literal comprehension	1	Section 6 = 1
Section 9: Inference	1	Section 7 = 1
Section 10: Analysis	1	Section 8 = 1
Total raw score	10	Section 9 = 1 + 1 = 2 Section 10 = 1 + 1 = 2 Total raw score = 10 + 2 = 12

**HODDER Education**

**1B**

DO NOT COMPLETE THE FOLLOWING TABLE. It is for use by marksmen only.

Section	Raw score	Subtest scores
Section 1: Literal comprehension	1	Literal comprehension
Section 2: Inference	1	Section 1 + 1 = 2
Section 3: Vocabulary	1	Vocabulary
Section 4: Analysis	1	Section 2 + 1 = 2 + 1 = 3
Section 5: Literal comprehension	1	Section 3 = 1
Section 6: Inference	1	Section 4 = 1
Section 7: Analysis	1	Section 5 = 1
Section 8: Literal comprehension	1	Section 6 = 1
Section 9: Inference	1	Section 7 = 1
Section 10: Analysis	1	Section 8 = 1
Total raw score	10	Section 9 = 1 + 1 = 2 Section 10 = 1 + 1 = 2 Total raw score = 10 + 2 = 12

**HODDER Education**

**2A**

DO NOT COMPLETE THE FOLLOWING TABLE. It is for use by marksmen only.

Section	Raw score	Subtest scores
Section 1: Literal comprehension	1	Literal comprehension
Section 2: Inference	1	Section 1 + 1 = 2
Section 3: Vocabulary	1	Vocabulary
Section 4: Analysis	1	Section 2 + 1 = 2 + 1 = 3
Section 5: Literal comprehension	1	Section 3 = 1
Section 6: Inference	1	Section 4 = 1
Section 7: Analysis	1	Section 5 = 1
Section 8: Literal comprehension	1	Section 6 = 1
Section 9: Inference	1	Section 7 = 1
Section 10: Analysis	1	Section 8 = 1
Total raw score	10	Section 9 = 1 + 1 = 2 Section 10 = 1 + 1 = 2 Total raw score = 10 + 2 = 12

**HODDER Education**

**3B**

DO NOT COMPLETE THE FOLLOWING TABLE. It is for use by marksmen only.

Section	Raw score	Subtest scores
Section 1: Literal comprehension	1	Literal comprehension
Section 2: Inference	1	Section 1 + 1 = 2
Section 3: Vocabulary	1	Vocabulary
Section 4: Analysis	1	Section 2 + 1 = 2 + 1 = 3
Section 5: Literal comprehension	1	Section 3 = 1
Section 6: Inference	1	Section 4 = 1
Section 7: Analysis	1	Section 5 = 1
Section 8: Literal comprehension	1	Section 6 = 1
Section 9: Inference	1	Section 7 = 1
Section 10: Analysis	1	Section 8 = 1
Total raw score	10	Section 9 = 1 + 1 = 2 Section 10 = 1 + 1 = 2 Total raw score = 10 + 2 = 12

**HODDER Education**

Title	Grade	ISBN
New Access Reading Test – digital credit	Ages 10–16	9781036006099
New Access Reading Test (ART) 1A, PK10	Form 1 (Age 10–12)	9781510487239
New Access Reading Test (ART) 1B, PK10	Form 1 (Age 10–12)	9781510487246
New Access Reading Test (ART) 2A, PK10	Form 2 (Age 12–14)	9781510487253
New Access Reading Test (ART) 2B, PK10	Form 2 (Age 12–14)	9781510487260
New Access Reading Test (ART) 3A, PK10	Form 3 (Age 14–16)	9781510487277
New Access Reading Test (ART) 3B, PK10	Form 3 (Age 14–16)	9781510487284

# Access Mathematics Test

Access Mathematics Tests is a progress test that helps compare learners aged 10–16 against their cohort at a school and national level, understand their mathematical skills and areas where they can improve, and provide targeted interventions throughout their education.

**Age range covered:** 10–16 years

**Number of Tests:** 3 sets of parallel forms (6 test papers in total)

**Ideal testing time:** The assessment can be used at the beginning and end of a period of interventions.

**Content assessed:** AMT works alongside all major curricula and focuses on mathematical ability and comprehension.

## Access our value-added reporting tool

Access Mathematics Tests come with free access to our brand-new online assessment and reporting tool, Boost Insights.

- Quickly analyse results and gaps in learning to inform targeted teaching.
- Bulk upload results from paper tests.
- Effortlessly generate reports for individuals and groups to view and compare learner progress.
- Easily download visual reports that can be shared as PDFs with teachers, senior leaders, MAT leaders, school board members, and parents.

To learn more about Access Mathematics Tests, scan the QR code to view the brochure.



Title	Grade	ISBN
New Access Mathematics Test: digital credit	Ages 10–16	9781036006105
New Access Mathematics Test (AMT) 1A, PK10	Form 1 (Age 10–12)	9781510487291
New Access Mathematics Test (AMT) 1B, PK10	Form 1 (Age 10–12)	9781510487307
New Access Mathematics Test (AMT) 2A, PK10	Form 2 (Age 12–14)	9781510487314
New Access Mathematics Test (AMT) 2B, PK10	Form 2 (Age 12–14)	9781510487321
New Access Mathematics Test (AMT) 3A, PK10	Form 3 (Age 14–16)	9781510487338
New Access Mathematics Test (AMT) 3B, PK10	Form 3 (Age 14–16)	9781510487345

# Contact us

## CUSTOMER SERVICES

Private Bag X19, Northlands, 2116

Tel: 011 731 3300

Email: customerservices@macmillaneducation.co.za

Website: www.macmillaneducation.co.za

Facebook: MacmillanSouthAfrica

## NATIONAL

### Sibonelo Mkhase

*Head of National School Sales*

Cell: 066 474 3793

Email: Sibonelo.Mkhase@macmillaneducation.co.za

### Antoinette de Vries

*Head of National Commercial Sales and Marketing*

Tel: 011 731 3455

Email: Antoinette.deVries@macmillaneducation.co.za

## MACMILLAN TEACHER CAMPUS

Tel: 011 731 3409

Email: za.mtc@macmillaneducation.co.za

## EASTERN CAPE

### Ayanda Nkunzi

*Sales and Marketing Representative*

Cell: 082 949 9664

Email: Ayanda.Nkunzi@macmillaneducation.co.za

## FREE STATE

### Peter Ledwaba

*Provincial Sales Manager*

Cell: 076 994 0986

Email: Peter.Ledwaba@macmillaneducation.co.za

## GAUTENG

### Asheena Patel

*Provincial Sales Manager*

Cell: 066 138 2746

Email: Asheena.Patel@macmillaneducation.co.za

### Phathi Kona

*Sales and Marketing Representative*

Cell: 060 908 8209

Email: Phathi.Kona@macmillaneducation.co.za

## KWAZULU-NATAL

### Muzi Mshengu

*Provincial Sales Manager*

Cell: 082 528 3712

Email: Muzi.Mshengu@macmillaneducation.co.za

## Qhawe Gumede

*Sales and Marketing Representative*

Cell: 079 877 4995

Email: Qhawe.Gumede@macmillaneducation.co.za

## LIMPOPO

### Mmatapa Moabelo

*Sales and Marketing Representative*

Cell: 078 804 0612

Email: Mmatapa.Moabelo@macmillaneducation.co.za

## MPUMALANGA

### Lillian Vuma

*Sales and Marketing Representative*

Cell: 078 803 9918

Email: Lillian.Vuma@macmillaneducation.co.za

## NORTH WEST

### Mmaabo Modisane

*Provincial Sales Manager*

Cell: 071 399 1337

Email: Mmaabo.Modisane@macmillaneducation.co.za

## NORTHERN CAPE

### Liezl Abrahams

*Sales and Marketing Representative*

Cell: 071 441 9144

Email: Liezl.Abrahams@macmillaneducation.co.za

## WESTERN CAPE

### Liezl Abrahams

*Sales and Marketing Representative*

Cell: 071 441 9144

Email: Liezl.Abrahams@macmillaneducation.co.za

### Tania Zeederberg

*Sales and Marketing Representative*

Cell: 066 211 4352

Email: Tania.Zeederberg@macmillaneducation.co.za

## AGENCY AND DIGITAL SALES

### Kilayne Pelser

*Agency and Digital Sales Manager*

Cell: 076 994 0985

Email: Kilayne.Pelser@macmillaneducation.co.za

### Nicole Smith

*Agency and Digital Sales Consultant*

Cell: 082 944 6968

Email: Nicole.Smith@macmillaneducation.co.za