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KEY=EXPLAINED - ANASTASIA TANIYA

Mathematics Explained for Primary Teachers

SAGE This user-friendly interactive book makes concepts simple and gives you the confidence and knowledge to learn and teach mathematics to primary children. You can conveniently access easily digestible content to build and test your knowledge. It's a must have on any teachers book shelf! SAGE Primary Mathematics Student Panel LESSON PLANS AND WORKSHEETS: Save time with ideas and resources for planning your lessons. PROBLEM SOLVED! VIDEOS: Visualise how to solve a question by watching a quick animated demonstration. LEARNING AND TEACHING POINTS: Feel confident in the classroom with these key points to remember when planning and teaching. QUESTIONS AND QUIZZES: Achieve a firm grasp of concepts and a clear understanding with self-assessment questions and quizzes. FREE INTERACTIVE EBOOK: Study anywhere with your portable and convenient eBook! USE ME WITH... Student Workbook Mathematics Explained for Primary Teachers 6th Edition 9781526424686

Mathematics Explained for Primary Teachers

SAGE Get access to an interactive eBook when you buy the paperback! (Print paperback version only, ISBN 9781446285879) A Unique Blend of Digital and Print Learning Resources! 5 Star student reviews: "A must have for teachers-to-be, especially those who are a bit shaky on their maths knowledge!" "Not many maths books keep me fixated but this is one that is definitely worth the money." "It is a book I will be using even when in the classroom." Mathematics Explained for Primary Teachers develops your understanding of mathematical concepts and processes, and how children learn them, so you can confidently teach mathematics to primary children. Tried and tested, the fifth edition of Derek Haylock's much loved textbook matches the 2014 curriculum requirements for England. Every chapter integrates children's learning, classroom practice, and teacher's own requirements for subject knowledge, making this the ideal text to guide you through your studies and beyond. More than just a book! The new edition is supported by FREE access to an interactive eBook and a companion website allowing you to use a wealth of teaching and learning resources. You can use the eBook to study where and when you want, and read, annotate and search the book on a tablet, laptop or PC. You can also visit study.sagepub.com/haylock5e to access: Videos by the author introduce core themes of each section and explain key mathematical processes. Links to the National Curriculum specify the statutory requirements for primary schools in England that relate to the mathematical content of each chapter. Learning and Teaching points highlight important issues you may face in the classroom and provide practical guidance for teaching. Self-assessment questions help check your understanding and provide immediate feedback to see how well you have done. Select SAGE journal articles to support literature reviews and wider reading. Lesson Plan Activities by Ralph Manning support content-focused chapters and contain creative mathematics tasks across the primary age range. A Student Workbook is also available to accompany this book, including over 700 practice problems to help you understand, apply and teach primary mathematics. Derek Haylock is an education consultant and writer with a background in mathematics teaching, teacher education and classroom-based research in mathematics education. Ralph Manning is an independent consultant in primary education. He has worked as a primary teacher and as a lecturer in primary teacher education for 18 years, following a career in IT. *interactivity only available through Vitalsource eBook*

Mathematics Explained for Primary Teachers

SAGE Get access to an interactive eBook when you buy the paperback! (Print paperback version only, ISBN 9781446285879) A Unique Blend of Digital and Print Learning Resources! 5 Star student reviews: "A must have for teachers-to-be, especially those who are a bit shaky on their maths knowledge!" "Not many maths books keep me fixated but this is one that is definitely worth the money." "It is a book I will be using even when in the classroom." Mathematics Explained for Primary Teachers develops your understanding of mathematical concepts and processes, and how children learn them, so you can confidently teach mathematics to primary children. Tried and tested, the fifth edition of Derek Haylock's much loved textbook matches the 2014 curriculum requirements for England. Every chapter integrates children's learning, classroom practice, and teacher's own requirements for subject knowledge, making this the ideal text to guide you through your studies and beyond. More than just a book! The new edition is supported by FREE access to an interactive eBook and a companion website allowing you to use a wealth of teaching and learning resources. You can use the eBook to study where and when you want, and read, annotate and search the book on a tablet, laptop or PC. You can also visit study.sagepub.com/haylock5e to access: Videos by the author introduce core themes of each section and explain key mathematical processes. Links to the National Curriculum specify the statutory requirements for primary schools in England that relate to the mathematical content of each chapter. Learning and Teaching points highlight important issues you may face in the classroom and provide practical guidance for teaching. Self-assessment questions help check your understanding and provide immediate feedback to see how well you have done. Select SAGE journal articles to support literature reviews and wider reading. Lesson Plan Activities by Ralph Manning support content-focused chapters and contain creative mathematics tasks across the primary age range. A Student Workbook is also available to accompany this book, including over 700 practice problems to help you understand, apply and teach primary mathematics. Derek Haylock is an education consultant and writer with a background in mathematics teaching, teacher education and classroom-based research in mathematics education. Ralph Manning is an independent consultant in primary education. He has worked as a primary teacher and as a lecturer in primary teacher education for 18 years, following a career in IT. *interactivity only available through Vitalsource eBook*

Student Workbook for 'Mathematics Explained for Primary Teachers'

SAGE This Workbook provides students with an attractive and engaging means of reviewing, reinforcing and applying the material of Mathematics Explained for Primary Teachers Fourth Edition, chapter by chapter. The material in the workbook has been tested and endorsed by primary PGCE trainees. Detailed solutions and explanatory notes are provided at the end of the book for each task. The self-assessment tasks are of three kinds: - Checking Understanding Tasks designed to help the reader to check their own understanding of key concepts and principles and their mastery of important skills in each chapter. - Processes and Applications Tasks that provide opportunities to apply the mathematical content of each chapter in real-life situations, and in puzzles, problems, investigations and other mathematical challenges. - Teaching and Learning: tasks that provide opportunities for the reader to consider their responses to children's errors and misunderstandings, and to consider the content of each chapter in terms of approaches to teaching and learning in a primary school context.

Student Workbook Mathematics Explained for Primary Teachers

Updated with over 100 new questions! This Student Workbook allows you to practice the concepts introduced in Derek Haylock's Mathematics Explained for Primary Teachers. With over 800 questions endorsed by primary PGCE trainees, along with detailed solutions and explanatory notes, this new edition Student Workbook helps you gain the confidence you need to understand, apply and teach the primary maths curriculum. Checking Understanding questions are designed to help you check your own knowledge of terminology, understanding of key concepts and principles, and your mastery of important skills. Reasoning and Problem-solving questions encourage you to use and apply mathematical concepts in solving mathematical puzzles or problems in real life situations. Learning and Teaching solutions include responses to children's errors and misunderstandings, development of teaching ideas, evaluation of teaching approaches, and consideration of objectives to promote understanding.

Mathematics Explained for Primary Teachers - 4/Ed / Student Wkbk for Mathematics Explained for Primary Teachers

Sage Publications This specially discounted book pack combines the new fourth edition of Derek Haylock's much loved textbook Mathematics Explained for Primary Teachers with the brand new accompanying Student Workbook. Mathematics Explained for Primary Teachers The new fourth edition of Mathematics Explained for Primary Teachers has been fully revised and restructured to match the current Attainment Targets for mathematics in England. Every chapter is written in a way that integrates children's learning, classroom practice and the teacher's own requirements for subject knowledge, making this the ideal text for primary PGCE courses. Some of the changes in the new edition include: -Two new chapters on mathematics in the primary curriculum and learning to learn mathematics -More prominence given to using and applying mathematics -Sections matching the attainment targets for mathematics -More learning and teaching points highlighted throughout the text -Further material on number, risk, use of ICT, graphs and data-handling. -A research focus in every chapter. The companion website www.sagepub.co.uk/haylock provides a glossary and additional material to enable primary trainees to prepare with confidence for the ITT Numeracy test, and provides details of how each chapter of the book is linked to the National Curriculum. This will be updated to reflect any updates to the National Curriculum as they are introduced. Extensively used on primary PGCE courses and undergraduate courses leading to QTS, this bestselling book is an essential resource for all trainee primary teachers. Student Workbook The new companion workbook to Mathematics Explained for Primary Teachers provides students with an attractive and engaging means of reviewing, reinforcing and applying the material of Mathematics Explained for Primary Teachers 4th Edition, chapter by chapter. The material in the workbook has been tested and endorsed by primary PGCE trainees. Detailed solutions and explanatory notes are provided at the end of the book for each task. The self-assessment tasks are of three kinds: A. Checking Understanding Tasks designed to help the reader to check their own understanding of key concepts and principles and their mastery of important skills in each chapter. B. Processes and Applications Tasks that provide opportunities to apply the mathematical content of each chapter in real-life situations, and in puzzles, problems, investigations and other mathematical challenges. C. Teaching and Learning Tasks that provide opportunities for the reader to consider their responses to children's errors and misunderstandings, and to consider the content of each chapter in terms of approaches to teaching and learning in a primary school context.

Mathematical Knowledge for Primary Teachers

Taylor & Francis Now in its fifth edition, the best-selling text Mathematical Knowledge for Primary Teachers provides trainee teachers with clear information about the fundamental mathematical ideas taught in primary schools. With rigorous and comprehensive coverage of all the mathematical knowledge primary teachers need, the text goes beyond rules and routines to help readers deepen their understanding of mathematical ideas and increase their confidence in teaching these ideas. The book has been updated to incorporate changes in the National Curriculum and the associated tests. In addition, Chapter 1 has been expanded to discuss mathematical understanding in the light of the challenges posed by the current changes. These include the re-introduction of traditional calculation methods for multiplication and division, the early coverage of abstract fractions calculations and much more. Features include: ■ 'Check' questions to test the reader's understanding ■ 'Challenges' to increase teachers' confidence and stretch their mathematical abilities ■ 'Links with the classroom' to emphasise the relevance of ideas to the classroom context ■ Straightforward coverage from theory to practice for all aspects of the Mathematics Framework. The book is accompanied by eResources which contains further visual activities and support, designed to scaffold and support the reader's own understanding. Essential reading for all practising and trainee primary teachers, this book is ideal for those who wish to increase their mathematical understanding and confidence in presenting mathematics in the classroom.

Understanding and Teaching Primary Mathematics

Routledge Written by an experienced teacher and teacher educator with widespread experience of teaching mathematics in the UK and internationally, Understanding and Teaching Primary Mathematics combines pedagogy and subject knowledge to build confidence and equip you with all the skills and know-how you need to successfully teach mathematics to children of any age. This 4th edition has been fully updated to reflect the latest research developments and initiatives in the field, including a brand-new chapter on 'Mastery and mathematics' and 'The Singapore approach' which reflects the current international interest in these approaches to learning and teaching mathematics. Extra features also include helpful callouts to the book's revised and updated companion website, which offers a shared site with a range of resources relevant to both this book and its companion volume, Teaching for Mathematical Understanding. Stimulating, accessible and well-illustrated, with comprehensive coverage of subject knowledge and pedagogy, Understanding and Teaching Primary Mathematics is an essential purchase for trainee and practising teachers alike.

Primary Mathematics for Trainee Teachers

Learning Matters With chapter sequencing following the new Curriculum, this book supports trainee Primary school teachers to make use of the opportunities presented in the new National Curriculum for effective and engaging Mathematics teaching. Covering all of the areas of the new Curriculum for primary mathematics and offering insight into effective teaching, this book helps students connect what they need to teach with how it can be taught. Exploring opportunities in the new curriculum for creative and imaginative teaching, it shows readers how to capitalize on opportunities to develop children's reasoning and problem solving skills. It explores how to make links between mathematics and children's lived experiences to enhance their learning and enables trainees to develop an ability to plan with discernment, making the most of existing thinking and research as well as building confidence in adapting and customizing ideas. Includes the full National Curriculum Programme of Study for Maths, key stages 1 and 2 as a useful reference for trainee teachers. Other books in this series include: Primary Science for Trainee Teachers and Primary English for Trainee Teachers

Mathematics Explained for Primary Teachers

SAGE This Fourth Edition of Derek Haylock's much loved textbook has been fully revised and restructured to match the current Attainment Targets for mathematics in England. Every chapter is written in a way that integrates children's learning, classroom practice and the teacher's own requirements for subject knowledge, making this the ideal text for primary PGCE courses. Features in the new edition include: two new chapters on mathematics in the primary curriculum and learning to learn mathematics more prominence given to using and applying mathematics sections matching the attainment targets for mathematics more learning and teaching points highlighted throughout the text further material on number, risk, use of ICT, graphs and data-handling. a research focus in every chapter. Additional online support The companion website provides a glossary and additional material to enable primary trainees to prepare with confidence for the ITT Numeracy test, and provides details of how each chapter of the book is linked to the National Curriculum. This will be updated to reflect any updates to the National Curriculum as they are introduced. You can also follow Derek Haylock's blog and Twitter feeds to discuss and share issues, news, policy and anything primary maths related! -Visit the companion website: www.uk.sagepub.com/haylock -Review Derek's blog: <http://derek-haylock.blogspot.co.uk/> -Follow Derek on Twitter: https://twitter.com/derek_haylock Extensively used on primary PGCE courses and undergraduate courses leading to QTS, this bestselling book is an essential resource for all trainee primary teachers. A companion Student Workbook is also available, which: provides self-assessment activities for students to check their understanding of key concepts helps students to practise key mathematical processes and to apply mathematics in real-life situations gives opportunities to apply their knowledge to teaching and learning.

Mathematical Misconceptions

A Guide for Primary Teachers

SAGE How do children relate to numbers and mathematics? How can they be helped to understand and make sense of them? People are rarely ambivalent towards mathematics, having either a love or hate relationship with the subject, and our approach to it is influenced by a variety of factors. How we are taught mathematics as children plays a big role in our feelings towards it. Numbers play a large part in our lives, and it is therefore beneficial to inspire a positive attitude towards them at a young age. With contributors comprised of teachers, teacher educators, mathematicians and psychologists, Mathematical Misconceptions brings together information about pupils' work from four different countries, and looks at how children, from the ages of 3 - 11, think about numbers and use them. It explores the reasons for their successes, misunderstandings and misconceptions, while also broadening the reader's own mathematical knowledge. Chapters explore: - the seemingly paradoxical number zero - the concept of equality - children's perceptions and misconceptions of adding, subtracting, multiplying and dividing - the learning process - the ways in which children acquire number concepts. This unique book will transform the way in which primary school teachers think about mathematics. Fascinating reading for anyone working with children of this age, it will be of particular interest to teachers, trainee teachers and teaching assistants. It will show them how to engage children in the mysteries and delights of numbers.

Understanding Mathematics in the Lower Primary Years

A Guide for Teachers of Children 3 - 8

SAGE New Edition of Best Seller! This is a fully revised and updated edition of the authors' successful and much-used book and was written for those who wish to have a clearer understanding of the mathematical ideas behind the material they use in the classroom.

Enriching Mathematics in the Primary Curriculum

Learning Matters How do I enrich children's learning of primary mathematics to bring the subject to life? This book inspires and supports you, the new and beginning teacher, to use talk-rich and open tasks that bring mathematics to life in your classroom. Tried and loved practical tasks that engage and motivate Supports you to create confident and resilient mathematicians in your classroom Explores ways to engage children in mathematics across the primary curriculum Focuses on understanding key mathematical concepts and the connections between them

Learning to Teach in the Primary School

Routledge Flexible, effective and creative primary school teachers require subject knowledge, an understanding of their pupils and how they learn, a range of strategies for managing behaviour and organising environments for learning, and the ability to respond to dynamic classroom situations. This third edition of Learning to Teach in the Primary School is fully updated with reference to the new National Curriculum, and has been revised to provide even more practical advice and guidance to trainee primary teachers. Twenty-two new authors have been involved and connections are now made to Northern Irish, Welsh and Scottish policies. In addition, five new units have been included on: making the most of your placement play and exploration in learning behaviour management special educational needs phonics. With Masters-level reflective tasks and suggestions for research-based further reading, the book provides valuable support to trainee teachers engaged in learning through school-based experience and through reading, discussion and reflections as part of a teacher education course. It provides an accessible and engaging introduction to knowledge about teaching and learning that every student teacher needs to acquire in order to gain qualified teacher status (QTS). This comprehensive textbook is essential reading for all students training to be primary school teachers, including those on undergraduate teacher training courses (BEd, BA with QTS, BSc with QTS), postgraduate teacher training courses (PGCE, SCITT) and employment-based teacher training courses (Schools Direct, Teach First), plus those studying Education Studies. This textbook is supported by a free companion website with additional resources for instructors and students and can be accessed at www.routledge.com/cw/Cremin.

Reasons to Reason in Primary Maths and Science

Learning Matters This book explores what reasoning is and what it is not. It includes background theory and a rationale for primary teachers alongside examples of how reasoning in primary mathematics and science classes can develop.

Language Knowledge for Primary Teachers

Routledge Teaching children to develop as language users is one of the most important tasks of a primary school teacher. However, many trainee teachers begin their careers with a low knowledge base. Language Knowledge for Primary Teachers is the reader friendly guide designed to address this.

Mastery Mathematics for Primary Teachers

SAGE This book explores how mathematical mastery, influenced by East Asian teaching approaches, can be developed in a UK context to enhance teaching and to deepen children's mathematical knowledge. It gives guidance on using physical resources to demonstrate key concepts, extended examples on how to teach different curriculum topics and how to plan for small-step progression. Key coverage includes: - Key terminology in mastery-style teaching - The challenges in implementing a mastery approach - The use of manipulative resources for deeper understanding - An analysis of mastery and related schemes of work currently available - Assessing mastery - How to apply mastery concepts in the early years

Teaching Primary English

Subject Knowledge and Classroom Practice

Routledge Teaching Primary English is a comprehensive, evidence-informed introduction designed to support and inspire teaching and learning in the primary school. Written in a clear and accessible way, it draws on the very latest research and theory to describe and exemplify a full and rich English curriculum. It offers those on teacher training courses, as well as qualified teachers who are looking to develop their practice, subject knowledge and guidance for effective, enjoyable classroom practice. Advice and ideas are supported by explicit examples of good teaching linked to video clips filmed in real schools, reflective activities, observational tasks and online resources. Each chapter includes suggestions for great children's literature, considers assessment throughout and offers support planning for diversity and special educational needs. Key topics covered include: spoken language for teaching and learning storytelling, drama and role play reading for pleasure early reading, including phonics poetry writing composition spelling and handwriting grammar and punctuation responding to and assessing writing multimodal, multimedia and digital texts. With a focus on connecting all modes of English, the global and the local, and home and school experience, this detailed, uplifting book will support you in developing a curious, critical approach to teaching and learning English. Additional content can be found on the fantastic supporting website. Features include: video clips from within the classroom to demonstrate English teaching techniques audio resources, including an interactive quiz, to check understanding and provide real-life examples and case studies downloadable resources to support teaching and incorporate into lesson plans.

Understanding Mathematics for Young Children

A Guide for Teachers of Children 3-7

SAGE Essential guide for teaching children aged 3-7, developing knowledge of key mathematical ideas and concepts in the nursery and primary classroom.

Teaching Mathematics at Secondary Level

Open Book Publishers Teaching Mathematics is nothing less than a mathematical manifesto. Arising in response to a limited National Curriculum, and engaged with secondary schooling for those aged 11- 14 (Key Stage 3) in particular, this handbook for teachers will help them broaden and enrich their students' mathematical education. It avoids specifying how to teach, and focuses instead on the central principles and concepts that need to be borne in mind by all teachers and textbook authors—but which are little appreciated in the UK at present. This study is aimed at anyone who would like to think

more deeply about the discipline of 'elementary mathematics', in England and Wales and anywhere else. By analysing and supplementing the current curriculum, *Teaching Mathematics* provides food for thought for all those involved in school mathematics, whether as aspiring teachers or as experienced professionals. It challenges us all to reflect upon what it is that makes secondary school mathematics educationally, culturally, and socially important.

Understanding and Enriching Problem Solving in Primary Mathematics

Critical Publishing This up to date book is essential reading for all those teaching or training to teach primary mathematics. Problem solving is a key aspect of teaching and learning mathematics, but also an area where teachers and pupils often struggle. Set within the context of the new primary curriculum and drawing on research and practice, the book identifies the key knowledge and skills required in teaching and learning problem solving in mathematics, and examines how these can be applied in the classroom. It explores the issues in depth while remaining straightforward and relevant, emphasises the enrichment of maths through problem-solving, and provides opportunities for teachers to reflect on and further develop their classroom practice.

Primary Mathematics: Knowledge and Understanding

Learning Matters The essential subject knowledge text for primary mathematics. Secure subject knowledge and understanding is the foundation of confident, creative and effective teaching. This comprehensive text includes interactive tasks, a self assessment section to allow trainees to better understand their level of knowledge and M level extension boxes to provide further challenge in all chapters. This 7th edition is updated in line with the new National Curriculum and includes updated research summaries reflecting the latest thinking. This highly recommended text helps trainee primary teachers develop and consolidate their knowledge of mathematics.

Understanding Mathematics for Young Children

A Guide for Foundation Stage and Lower Primary Teachers

SAGE 'This book is the ideal way to dispel some of the fears which surround the subject area of mathematics and should be an essential part of the professional development library of every early years setting provider for children aged three and over' - *Early Years Update* 'A book that is both readable and rigorous. [Its] guidance will help teachers to make mathematics meaningful to young children. Throughout the book connections are made which relate language, symbols, concrete materials and pictures to the key ideas that are central to effective learning for the 21st century. This book will help teachers gain a depth of understanding that will make them confident in engaging children with real mathematical thinking' - *Dr J.E. Anghileri, Senior Lecturer in Mathematics and Mathematics Education, Faculty of Education, University of Cambridge* 'This is an updated version of a classic text which has been a best-seller among teachers and student teachers for many years. Being always strongly grounded in the classroom, it develops in a non-intimidating way teachers' own understanding of the mathematics they are teaching. Many insightful examples of children's thinking and appropriate activities help to illustrate the points. This is an essential book for teachers of Early Years and Key Stage 1' - *Margaret Brown, Professor of Mathematics Education, King's College London, UK* This is a fully revised version of the authors' successful and much-used book, *Understanding Mathematics in the Lower Primary Years*, updated to include the current Foundation Stage Curriculum and the new Primary Framework in England. The authors empower the reader to have a clearer understanding of the mathematical ideas behind the material they use in the classroom. They also show how children can be helped to develop an understanding of mathematics for themselves, rather than just learning recipes and routines with little meaning. Major themes are: - Understanding through making connections - Equivalence and transformation - Using and applying mathematics It is written for teachers and teacher trainees engaged in teaching mathematics to children aged 3 to 8 years. It is an essential student text and professional reference work for all teachers of children aged 3 to 8 years. *Dr Derek Haylock* is an education consultant and author, working in the field of mathematics education. His book *Mathematics Explained for Primary Teachers* has been a leader in the field for many years, with a third edition published in 2006. *Dr Anne Cockburn* is a Reader in the School of Education and Lifelong Learning at the University of East Anglia, Norwich. Watch the authors talking about their book here: [YouTube](#)

How I Wish I'd Taught Maths

Lessons Learned from Research, Conversations with Experts, and 12 Years of Mistakes

Brought to an American audience for the first time, *How I Wish I'd Taught Maths* is the story of an experienced and successful math teacher's journey into the world of research, and how it has entirely transformed his classroom.

Visible Maths

Using representations and structure to enhance mathematics teaching in schools

Crown House Publishing Ltd *Peter Mattock's Visible Maths: Using representations and structure to enhance mathematics teaching in schools* supports teachers in their use of concrete and pictorial representations to illustrate key mathematical ideas and operations. Viewing the maths lesson as an opportunity for pupils to develop a deep understanding of mathematical concepts and relationships, rather than simply to follow fixed processes that lead to 'the answer', is increasingly recognised as the pinnacle of best practice in maths education. In this book, Peter Mattock builds on this approach and explores in colourful detail a variety of visual tools and techniques that can be used in the classroom to deepen pupils' understanding of mathematical operations. Covering vectors, number lines, algebra tiles, ordered-pair graphs and many other representations, *Visible Maths* equips teachers with the confidence and practical know-how to take their pupils' learning to the next level. The book looks at the strengths, and flaws, of each representation so that both primary and secondary school teachers of maths can make informed judgements about which representations will benefit their pupils. The exploration begins at the very basics of number and operation, and extends all the way through to how the representations apply to algebraic expressions and manipulations. As well as sharing his expert knowledge on the subject, Peter draws on relevant research and his own experience of using the representations in order to support teachers in understanding how these representations can be implemented effectively. *Visible Maths* also includes a glossary covering the key mathematical terms, as well as a chapter dedicated to answering some of the questions that may arise from the reading of the book. Furthermore, the accompanying diagrams and models are displayed in full colour to illustrate the conceptual takeaways and teaching techniques discussed. Suitable for teachers of maths in primary and secondary school settings.

How Big is a Big Number?

Learning to Teach Mathematics in the Primary School

Learning Matters This book examines what is meant by 'mastery of mathematics' and reviews what we can learn from Asian maths teaching methods. It helps readers to see how areas of mathematics fit together and how they can support children to build their own understanding of the subject.

Teaching Mathematics Creatively

Routledge This revised and updated third edition offers a range of strategies, activities and ideas to bring mathematics to life in the primary classroom. Taking an innovative and playful approach to maths teaching, this book promotes creativity as a key element of practice and offers ideas to help your students develop knowledge, understanding and enjoyment of the subject. In the creative classroom, mathematics becomes a tool to build confidence, develop problem solving skills and motivate children. The fresh approaches explored in this book include a range of activities such as storytelling, music and construction, elevating maths learning beyond subject knowledge itself to enable students to see mathematics in a new way. Key chapters of this book explore:

- Learning maths outdoors - make more noise, make more mess or work on a larger scale
- Everyday maths - making sense of the numbers, patterns, shapes and measures children see around them
- Music and maths - the role of rhythm in learning, and music and pattern in maths

Stimulating, accessible and underpinned by the latest research and theory, this is essential reading for trainee and practising teachers who wish to embed creative approaches to maths teaching in their classroom.

Explaining Primary Science

SAGE Successful science teaching in primary schools requires a careful understanding of key scientific knowledge. This book covers all the major areas of science relevant for beginning primary school teachers, explaining key concepts from the ground up, helping trainees develop into confident science educators. This new edition comes with:

- New guidance on teaching primary science today
- Activities to enhance your understanding of key teaching topics
- Links to national curricula for England, Scotland, Australia and New Zealand
- Videos of useful science experiments and demonstrations for the primary classroom

Knowing and Teaching Elementary Mathematics

Teachers' Understanding of Fundamental Mathematics in China and the United States

Routledge Studies of teachers in the U.S. often document insufficient subject matter knowledge in mathematics. Yet, these studies give few examples of the knowledge teachers need to support teaching, particularly the kind of teaching demanded by recent reforms in mathematics education. Knowing and Teaching Elementary Mathematics describes the nature and development of the knowledge that elementary teachers need to become accomplished mathematics teachers, and suggests why such knowledge seems more common in China than in the United States, despite the fact that Chinese teachers have less formal education than their U.S. counterparts. The anniversary edition of this bestselling volume includes the original studies that compare U.S and Chinese elementary school teachers' mathematical understanding and offers a powerful framework for grasping the mathematical content necessary to understand and develop the thinking of school children. Highlighting notable changes in the field and the author's work, this new edition includes an updated preface, introduction, and key journal articles that frame and contextualize this seminal work.

Key Concepts in Teaching Primary Mathematics

SAGE Covering the key principles and concepts in the teaching and learning of mathematics in primary schools, this text provides trainee and practising teachers with a quick and easy reference to what they need to know for their course, and in the classroom. The entries are arranged alphabetically, and each contains a brief definition, followed by an explanation and discussion, practical examples and annotated suggestions for further reading. Examples of the wide-ranging material include: Anxiety about mathematics; Assessment for Learning; Cognitive conflict; Concept learning; Creativity in mathematics; Differentiation; Equivalence; Explanation; Investigation; Low attainment; Making connections; Meaningful context; Mental calculation; Numeracy; Play as a context for learning mathematics; Problem-solving; Questioning; Talk.

Mastery in Primary Mathematics

A Guide for Teachers and Leaders

Bloomsbury Children's Books Mastery in Primary Mathematics contains clear, practical guidance for both teachers and leaders on how to implement a mastery approach in the classroom that transcends any particular context, school type or scheme currently being used. Filled with research-based evidence, case studies and concrete examples of teaching for mastery used successfully, this is the ideal toolkit to implementing a mastery approach across a school, regardless of expertise. Moulding pupils into confident and successful mathematicians is one of the most important jobs of a primary school. It can also be one of the most difficult. Teaching for mastery gives pupils the best possible understanding of mathematics and implementing it involves a two-pronged approach- mastery must be embedded in the classroom, but will only work with the full support of the school's leadership team. Based on educational research and school case studies, Mastery in Primary Mathematics gives practical advice on introducing and sustaining teaching for mastery, with sections for both class teachers and school leaders. In this must-have guide, Tom Garry, NCETM Maths Mastery Specialist Teacher, covers the areas of variation theory, mathematical reasoning and the use of correct mathematical language, and equips leaders with the necessary tools to make the mastery approach work across a school. With a view to planning at three levels o curricular, unit and lesson o in order to fully arm educators with the means to plan effectively, Tom draws on cognitive science as current developments in this field are crucial to understanding how children learn.

How Children Learn Mathematics

A Guide for Parents and Teachers

Penguin UK

Understanding Mathematics for Young Children

A Guide for Teachers of Children 3-8

SAGE A new edition of this bestselling book, which helps trainee and practising teachers understand mathematical concepts and how children learn them, as well as ably teach young children maths.

Big Ideas in Primary Mathematics

SAGE This book explains 'big ideas' in mathematics in simple terms supported by classroom examples to show how they can be applied in primary schools to enable learning. Carefully linked to the National Curriculum, it covers all the major concepts so you can develop your own mathematical subject knowledge and to give you the confidence to deepen your understanding of the children you teach. This second edition includes: · A new 'links with mastery' feature showing how to teach with mastery in mind · A new glossary of key terms · New big ideas and activities throughout

Problem Solving in Primary Mathematics

Learning to Investigate!

Routledge Problem Solving in Primary Mathematics is an essential text designed to support new and experienced teachers in guiding pupils through mathematical investigations and problem solving, offering a framework that children themselves can begin to adopt as they progress to greater metacognitive awareness. Underpinned by the latest international research and theory, it examines how individual pupils think and act differently and offers guidance on how to promote independence and autonomy in the classroom. It examines key topics such as: Preparing for mathematical learning Designing learning material Assessing and evaluating learning Identifying key points for intervention What to do when learning is stalled Critical numeracy for real-world problem solving Mental Model Theory and the Mental Model Mode Different approaches to problem solving and investigating Aimed at new and experienced educators, particularly those with a maths specialism, and illustrated with investigations and activities, Problem Solving in Primary Mathematics demonstrates how frameworks can be used in key mathematical areas and assists students in progressing towards more meaningful problem solving.

How People Learn

Brain, Mind, Experience, and School: Expanded Edition

National Academies Press First released in the Spring of 1999, How People Learn has been expanded to show how the theories and insights from the original book can translate into actions and practice, now making a real connection between classroom activities and learning behavior. This edition includes far-reaching suggestions for research that could increase the impact that classroom teaching has on actual learning. Like the original edition, this book offers exciting new research about the mind and the brain that provides answers to a number of compelling questions. When do infants begin to learn? How do experts learn and how is this different from non-experts? What can teachers and schools do-with curricula, classroom settings, and teaching methods--to help children learn most effectively? New evidence from many branches of science has significantly added to our understanding of what it means to know, from the neural processes that occur during learning to the influence of culture on what people see and absorb. How People Learn examines these findings and their implications for what we teach, how we teach it, and how we assess what our children learn. The book uses exemplary teaching to illustrate how approaches based on what we now know result in in-depth learning. This new knowledge calls into question concepts and practices firmly entrenched in our current education system. Topics include: How learning actually changes the physical structure of the brain. How existing knowledge affects what people notice and how they learn. What the thought processes of experts tell us about how to teach. The amazing learning potential of infants. The relationship of classroom learning and everyday settings of community and workplace. Learning needs and opportunities for teachers. A realistic look at the role of technology in education.

Reflective Primary Mathematics

A guide for student teachers

SAGE 'This original book shows the crucial importance of personal philosophies of mathematics. Using current research it guides us to reflect on our attitudes and beliefs. Essential reading for anybody interested in mathematics and its teaching.' Paul Ernest, Emeritus Professor of Mathematics Education, University of Exeter Teaching mathematics can be challenging, and returning to a mathematics classroom yourself may not inspire you with confidence. This book can help you to become an assured teacher who can give young learners the high quality mathematics education that they deserve, by exploring the philosophy that lies behind good mathematics teaching and its application in the classroom. Throughout the book you are encouraged to put your own thoughts on mathematics learning and teaching under the microscope and examine your perceptions and understanding in order to develop as a critically reflective teacher, aware of potential challenges and what underpins effective mathematics teaching in primary schools. Coverage includes: · developing your own philosophy towards mathematics teaching · understanding links between confidence and learning · the importance of subject knowledge · common beliefs and attitudes among mathematics learners · how to develop your relationship with the subject. *This is essential reading for all students studying primary mathematics on initial teacher education courses, including undergraduate (BEd, BA with QTS), postgraduate (PGCE, School Direct, SCITT, Teach First) and NQTs. Elizabeth Jackson has over thirty years' experience of mathematics education through primary and secondary school teaching, lecturing in initial teacher education and supervising mathematics Master's dissertations, as well as conducting research into mathematics and writing.*

Myths and Legends of Mastery in the Mathematics Curriculum

Enhancing the breadth and depth of mathematics learning in primary schools

Learning Matters This book supports trainee and beginning teachers to understand what 'mastery' is and how to effectively integrate it into class teaching. It explores how 'mastery' is viewed and supported in other countries and encourages a critical examination of this topical theme. The text includes practical advice and examples of learning activities for teaching in both secondary and primary settings. It also outlines how to support children who might be weaker in their mathematical abilities and still ensure that all children master mathematics. The text also supports those who are developing whole school mastery approaches and looks at how we can assess 'mastery' as well as how we can be confident that it is supporting good progress. The text considers the range of evidence around the 'maths mastery' approach and supports schools and teachers to develop better understanding of mastery, what it really means and how they can deploy it in the classroom.

Leading Primary Mathematics

SAGE This book provides guidance and insight into 'what mathematics leadership looks like in practice' and shows readers how they can develop from a confident teacher into a curriculum subject leader. It does this through a careful blend of pedagogy and practical application, supported by a range of real-world case studies and opportunities to reflect critically on classroom practice. Key coverage includes: The planning and application that underpins subject leadership How international perspectives can influence leadership of mathematics How to develop fluency through problem solving and reasoning How to champion inclusive practice in mathematics Assessing children's understanding This is essential reading for anyone studying primary mathematics on initial teacher education courses, including undergraduate (BA Ed, BA with QTS) and postgraduate (PGCE, PGDE, School Direct and SCITT) routes, NQTs seeking to develop into curriculum leadership roles and those already leading mathematics in their school.

Interactive Maths Teaching in the Primary School

SAGE 'Nick Pratt's book looks in detail at the real meaning of teaching mathematics interactively in primary schools. Each section is set clearly within a context, is linked by 'key ideas' – the important bits to think about – and is summarised to give a succinct close to the chapter's content and thinking. It is a book that the reader will definitely find useful and thought provoking. It certainly made me consider how small changes and a wider variety of approaches in the classroom can make big changes in children's learning and understanding of mathematical concepts' - Mike Eatwell, Primary Maths Advisor, Bristol LEA Using a whole-class, interactive approach to teaching mathematics is a key feature of the National Numeracy Strategy (NNS), and this book looks at not only what works but also why things work. Teachers will be able to understand why and how the various teaching strategies they are using in their classrooms have a positive effect on children's learning. The book covers: " how to engage in meaningful reflective practice that will improve your lessons " how to use whiteboards " making mathematical meaning through talk " getting the whole class interacting " thinking, talking and acting mathematically " teaching number - starting points " teaching shape and space - starting points " developing your interactive teaching " a glossary of terms It is aimed at both practising and trainee teachers, and offers clear subject guidance as well as an explanation of a key part of the NNS. It supports both individuals and mathematics subject leaders delivering INSET to their colleagues.