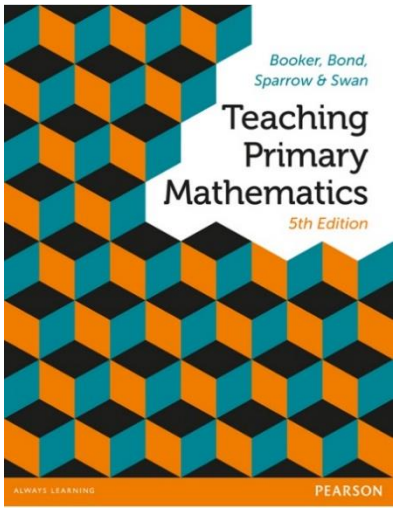
Suggested Mathematics Teacher Reference Resources

Mathematics Assessment for Learning: Rich Tasks & Work Samples – Anne Downton, Rose Knight, Doug Clarke, Gerard Lewis

A book for teachers seeking to inform their teaching by the use of tasks which can help to identify what their students know and can do in mathematics.
A great strength of this resource is that it not only presents appropriate tasks across a broad range of year levels and demonstrated understandings, but discusses these in the context of real student work samples and possible assessment rubrics.

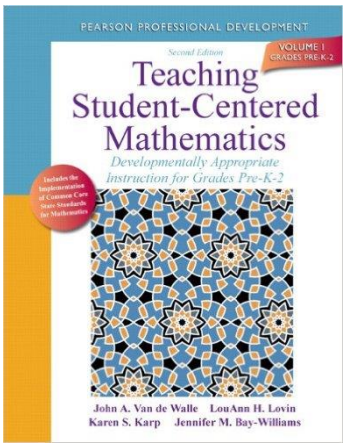
http://www.aamt.edu.au/Webshop/Entire-catalogue/Mathematics-Assessment-for-Learning
$50 – non-members $40 – members

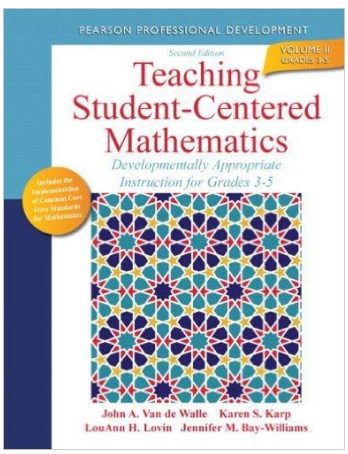


Teaching Primary Mathematics - George Booker (5th Ed.)
The fifth edition of *Teaching Primary Mathematics* has been significantly revised and updated for the current educational environment. The organisation of the book has been redesigned to reflect feedback from readers and the approach taken by the *Australian Curriculum: Mathematics*.

Teaching Primary Mathematics provides teachers and students with a sound framework for the successful teaching of mathematics to primary students. It is suitable both as a core text for primary student teachers and as an indispensable reference for practicing primary teachers seeking to update their knowledge.

http://www.pearson.com.au $118.95

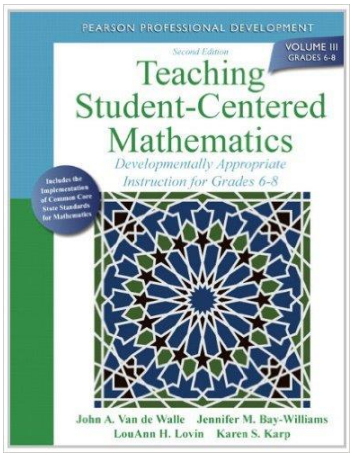




Teaching Student-Centered Mathematics: Developmentally Appropriate Instruction for Grades Pre-K-2 (Volume I) (2nd Edition)
Also
Teaching Student-Centered Mathematics: Developmentally Appropriate Instruction for Grades 3-5 (Volume II) (2nd Edition)
John A. Van de Walle

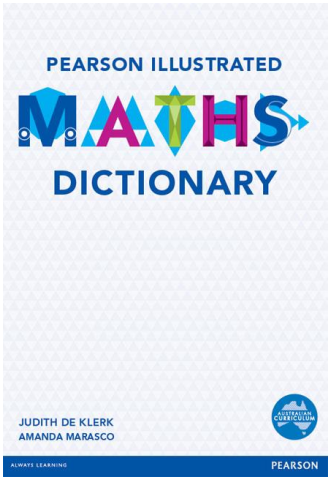
Initially adapted from Van de Walle's market-leading textbook, *Elementary and Middle School Mathematics*, the **Van de Walle Professional Mathematics Series** are practical guides for developmentally appropriate, student-centered mathematics instruction from best selling mathematics methods authors John Van de Walle, Karen Karp, LouAnn Lovin, and Jennifer Bay-Williams. Specially designed for in-service teachers, each volume of the series focuses on the content relevant to a specific grade band and provides additional information on creating an effective classroom environment, engaging families, and aligning teaching to the *Common Core State Standards*. Additional activities and expanded lessons are also included.

The series has three objectives:
1. To illustrate what it means to teach student-centered, problem-based mathematics
2. To serve as a reference for the mathematics content and research-based instructional strategies suggested for pre-kindergarten to grade two, grades three to five, and grades six to eight



3. To present a large collection of high quality tasks and activities that can engage students in the mathematics that is important for them to learn

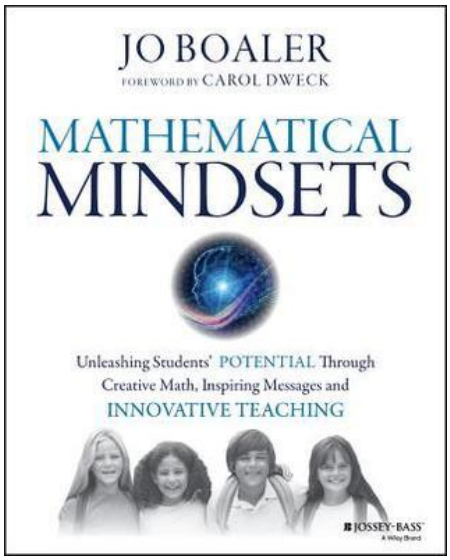
Volume I is tailored specifically to pre-kindergarten to grade 2, allowing teachers to quickly and easily locate information to implement in their classes. The student-centered approach will result in children who are successful in learning mathematics, making these books indispensable for Pre-K-2 classroom teachers!
Volume II is tailored specifically to grades 3-5, allowing teachers to quickly and easily locate information to implement in their classes. The student-centered approach will result in students who are successful in learning mathematics, making these books indispensable for 3-5 classroom teachers!
Volume III is tailored specifically to grades 6-8, allowing teachers to quickly and easily locate information to implement in their classes. The student-centered approach will result in students who are successful in learning mathematics, making these books indispensable for 6-8 classroom teachers!
http://www.pearson.com.au/ $77.95 each



Pearson Illustrated Maths Dictionary 5th Edition

The Pearson Illustrated Maths Dictionary 5th edition is a revised and improved edition of Australia's best-selling mathematics dictionary incorporating all the mathematical terms in the Australian Curriculum glossary.

http://www.pearson.com.au/9781486009831 $22.95

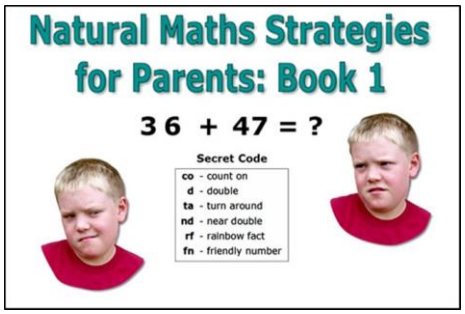


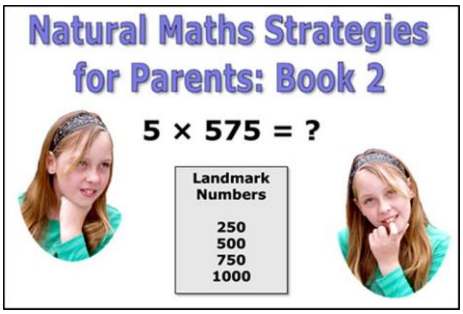
Mathematical Mindsets, Unleashing Students' Potential through Creative Math, Inspiring Messages and Innovative Teaching – Jo Boaler

Banish math anxiety and give students of all ages a clear roadmap to success *Mathematical Mindsets* provides practical strategies and activities to help teachers and parents show all children, even those who are convinced that they are bad at math, that they can enjoy and succeed in math. Jo Boaler-Stanford researcher, professor of math education, and expert on math learning--has studied why students don't like math and often fail in math classes. She's followed thousands of students through middle and high schools to study how they learn and to find the most effective ways to unleash the math potential in all students.

There is a clear gap between what research has shown to work in teaching math and what happens in schools and at home. This book bridges that gap by turning research findings into practical activities and advice. Boaler translates Carol Dweck's concept of 'mindset' into math teaching and parenting strategies, showing how students can go from self-doubt to strong self-confidence, which is so important to math learning. Boaler reveals the steps that must be taken by schools and parents to improve math education for all.
https://www.youcubed.org/mathematical-mindsets/

St Georges Books/ Seelect - $28.95 Online from approx. $21.00





Natural Maths Strategies for Parents: Book 1 and Book 2 – Ann Baker

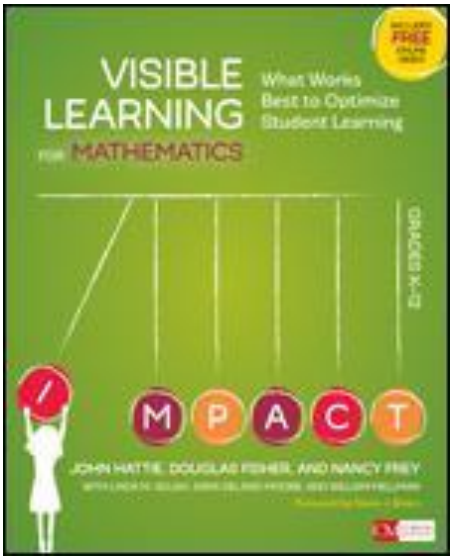
Responding to Parent Power - The idea for this series started at a parent's evening at Milton State School, Brisbane, where Ann and Johnny were discussing the mental computation strategies that have become a central component of the Australian Maths Curriculum. It was the parents who suggested that they would find it helpful to have a reference point so that they could become fully involved in supporting their children in learning maths. Since then, many schools have not only made the NMS for Parents a book that they recommend to parents, it has also become a resource for teachers who find the simple explanations and example activities just the thing to stimulate mathematical thinking in their classroom.

Both books in the series explain the key mental computation strategies, show their methods of representation and suggest activities that parents can share with their child. We are sure that the series will be of great interest to all parents who want to understand what's new in maths teaching.

**A great resource for the library for parents to borrow*

www.naturalmaths.com.au

$5.50 – Electronic versions *(downloadable PDF)*
$7.70 – Book 1 hard copy $8.80 – Book 2 hard copy



Visible Learning for Mathematics, Grades K-12 - What Works Best to Optimize Student Learning John Hattie, Douglas Fisher, Nancy Frey

Rich tasks, collaborative work, number talks, problem-based learning, direct instruction…with so many possible approaches, how do we know which ones work the best? In *Visible Learning for Mathematics*, six acclaimed educators assert it's not about which one—it's about when—and show you how to design high-impact instruction so all students demonstrate more than a year's worth of mathematics learning for a year spent in school.

That's a high bar, but with the amazing K-12 framework here, you choose the right approach at the right time, depending upon where learners are within three phases of learning: surface, deep, and transfer. This results in "visible" learning because the effect is tangible. The framework is forged out of current research in mathematics combined with John Hattie's synthesis of more than 15 years of education research involving *300 million students*.

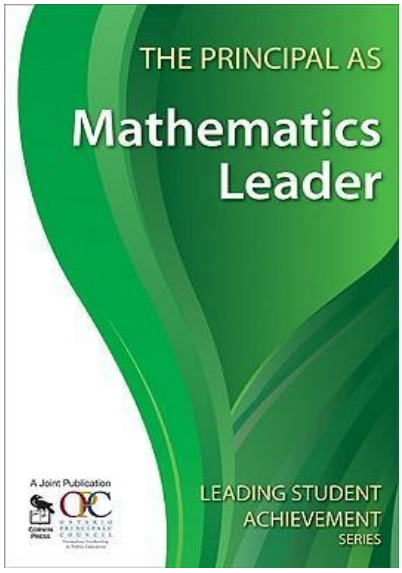
Chapter by chapter, and equipped with video clips, planning tools, rubrics, and templates, you get the inside track on which instructional strategies to use at each phase of the learning cycle:

Surface learning phase: When—through carefully constructed experiences—students explore new concepts and make connections to procedural skills and vocabulary that give shape to developing conceptual understandings.

Deep learning phase: When—through the solving of rich high-cognitive tasks and rigorous discussion—students make connections among conceptual ideas, form mathematical generalizations, and apply and practice procedural skills with fluency.

Transfer phase: When students can independently think through more complex mathematics, and can plan, investigate, and elaborate as they apply what they know to new mathematical situations.

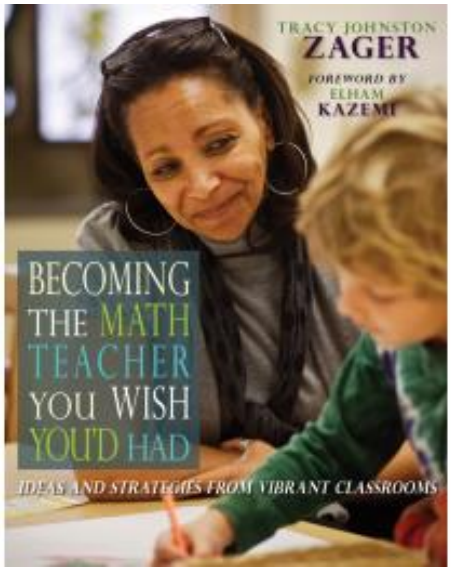
To equip students for higher-level mathematics learning, we have to be clear about where students are, where they need to go, and what it looks like when they get there. *Visible Learning for Math* brings about powerful, precision teaching for K-12 through intentionally designed guided, collaborative, and independent learning. https://shop.acer.edu.au/ $63.00



The Principal as Mathematics Leader

This book is written to help school leaders support mathematics education in schools. It is for both new administrators, principals, assistant/vice principals, or instructional leaders who do not have a strong background in mathematics education as well as for math coaches and the experienced mathematics leader. It provides a concise summary and overview of research about the changes in mathematics education; discusses the principal's role in leading effective mathematics instruction; offers strategies for observing and evaluating mathematics instruction in classrooms; provides suggestions for supporting faculty, including co-teaching and job embedded professional learning initiatives; and includes tools and templates school leaders can use in their work with faculty.

http://www.booktopia.com.au/ $26.95



Becoming the Math Teacher You Wish You'd Had: Ideas and Strategies from Vibrant Classrooms – Tracey Zager

While mathematicians describe mathematics as playful, beautiful, creative, and captivating, many students describe math class as boring, stressful, useless, and humiliating. In *Becoming the Math Teacher You Wish You'd Had*, Tracy Zager helps teachers close this gap by making math class more like mathematics. Tracy spent years with highly skilled math teachers in a diverse range of settings and grades. You'll find this book jam-packed with new thinking from these vibrant classrooms. You'll grapple with big ideas: How is taking risks inherent to mathematics? How do mathematicians balance intuition and proof? How can teachers value both productive mistakes and precision? You'll also find dozens of practical teaching techniques you can try in your classroom right away - strategies to stimulate students to connect ideas; rich tasks that encourage students to wonder, generalize, conjecture, and persevere; and routines to teach students how to collaborate.
All teachers can move toward increasingly authentic, delightful, robust mathematics teaching and learning for themselves and their students. This important book helps us develop instructional techniques that will make the math classes we teach so much better than the math classes we took.

http://www.hbe.com.au/becoming-the-math-teacher-you-wish-you-d-had.html
Hawker Brownlow Education - $55.95

Resource list compiled by Karly Hefferan – February 2017