

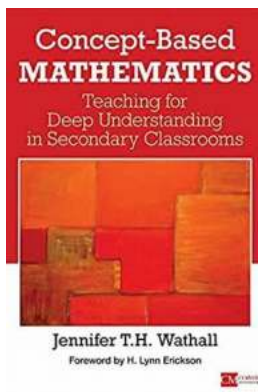
Teaching For Deep Understanding In Secondary Classrooms: Corwin Mathematics - The Key to Unlocking Math Excellence

Mathematics education plays a crucial role in shaping the minds of students and preparing them for future success. As educators, it is our responsibility to ensure that we provide secondary school students with the necessary tools to develop a deep understanding of mathematics. In this article, we will explore the concept of teaching for deep understanding in secondary classrooms using the Corwin Mathematics approach. With its proven effectiveness, Corwin Mathematics is the key to unlocking math excellence among students.

Understanding the Challenges

Mathematics has long been perceived as a challenging subject for many students. The lack of deep understanding often stems from traditional teaching methods that focus on rote memorization and formulaic problem-solving techniques. However, research has shown that true mathematical proficiency stems from a deep conceptual understanding rather than mere procedural knowledge.

To overcome these challenges, educators must adopt teaching practices that promote deep understanding. Corwin Mathematics provides secondary teachers with the necessary tools and strategies to create a classroom environment that fosters critical thinking, problem-solving, and conceptual understanding.



Concept-Based Mathematics: Teaching for Deep Understanding in Secondary Classrooms (Corwin Mathematics Series)

by Jennifer Wathall (1st Edition, Kindle Edition)

★★★★☆ 4.7 out of 5

Language : English

File size : 23363 KB

Text-to-Speech : Enabled

Screen Reader : Supported

Enhanced typesetting : Enabled

Word Wise : Enabled

Print length : 293 pages



The Corwin Mathematics Approach

The Corwin Mathematics approach is based on the principles of constructivism and inquiry-based learning. It encourages students to actively engage in the learning process by exploring mathematical concepts, making connections, and creating meaning. By doing so, students develop a deep understanding of mathematical concepts and can apply them in real-world contexts.

The Corwin Mathematics approach also emphasizes the importance of collaboration and communication. Students are encouraged to work together on problem-solving tasks, discuss their strategies, and explain their thinking. This not only fosters a deeper understanding of the subject but also enhances communication and critical thinking skills.

Strategies for Teaching Deep Understanding

The Corwin Mathematics approach provides several strategies for teaching deep understanding in secondary classrooms:

1. Making Connections:

Teachers can help students make connections between various mathematical concepts and real-life situations. By relating mathematical concepts to everyday experiences, students can develop a deeper understanding of how math is applicable in their lives.

2. Encouraging Problem-Solving:

Problem-solving tasks allow students to apply their knowledge and develop critical thinking skills. Educators using the Corwin Mathematics approach can present open-ended problems that require students to utilize various mathematical concepts and strategies to reach a solution.

3. Promoting Mathematical Discourse:

Engaging students in mathematical discourse encourages them to explain their thinking, justify their solutions, and engage in meaningful conversations. This not only deepens their understanding but also helps them develop communication and collaboration skills.

4. Formative Assessment:

Regular formative assessment allows educators to gauge students' understanding and tailor instruction accordingly. Corwin Mathematics provides various assessment tools and strategies to help teachers identify misconceptions and address them effectively.

5. Real-World Connections:

Integrating real-world contexts into mathematical instruction helps students see the relevance of math in their lives. By providing authentic and meaningful

situations, educators can promote deep understanding and motivate students to engage with the subject.

The Benefits of Deep Understanding

Teaching for deep understanding in secondary classrooms using the Corwin Mathematics approach offers numerous benefits to both students and educators:

1. Long-Term Retention:

When students develop a deep understanding of concepts, they are more likely to retain the knowledge for a longer period. This supports their overall academic success and provides a solid foundation for further mathematical learning.

2. Critical Thinking Skills:

Deep understanding encourages the development of critical thinking skills, as students learn to analyze problems, apply strategies, and justify their solutions. This enables them to tackle complex mathematical tasks and think critically in various scenarios.

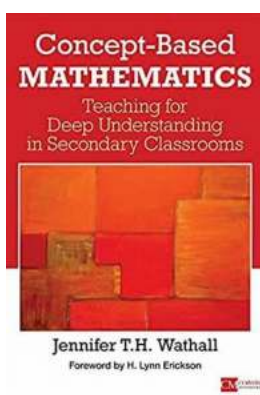
3. Confidence and Motivation:

When students have a deep understanding of mathematics, they feel more confident in their abilities. This confidence, coupled with a sense of achievement, motivates them to further explore the subject and pursue higher levels of mathematical learning.

4. Improved Mathematical Literacy:

Deep understanding equips students with the essential mathematical literacy required in today's world. They can apply their knowledge beyond the classroom, making informed decisions and solving real-world problems.

Teaching for deep understanding in secondary classrooms using the Corwin Mathematics approach is the key to unlocking math excellence among students. By fostering critical thinking, problem-solving, and conceptual understanding, educators can equip their students with the necessary skills for academic success and lifelong mathematical literacy. Embracing the Corwin Mathematics approach ensures that students develop a deep understanding of mathematics, allowing them to thrive in a world increasingly driven by quantitative analysis and problem-solving abilities.



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Give math students the connections between what they learn and how they do math—and suddenly math makes sense

If your secondary-school students are fearful of or frustrated by math, it's time for a new approach. When you teach concepts rather than rote processes, you show students math's essential elegance, as well as its practicality—and help them discover their own natural mathematical abilities.

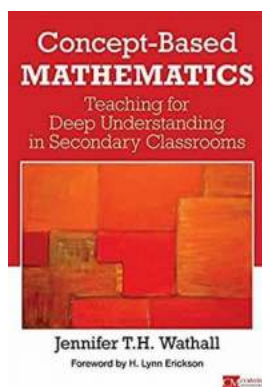
This book is a road map to retooling how you teach math in a deep, clear, and meaningful way —through a conceptual lens—helping students achieve higher-order thinking skills. Jennifer Wathall shows you how to plan units, engage students, assess understanding, incorporate technology, and even guides you through an ideal concept-based classroom.

- Practical tools include:
- Examples from arithmetic to calculus
- Inquiry tasks, unit planners, templates, and activities
- Sample assessments with examples of student work
- Vignettes from international educators
- A dedicated companion website with additional resources, including a study guide, templates, exemplars, discussion questions, and other professional development activities.

Everyone has the power to understand math. By extending Erickson and Lanning’s work on Concept-Based Curriculum and Instruction specifically to math, this book helps students achieve the deep understanding and skills called for by global standards and be prepared for the 21st century workplace.

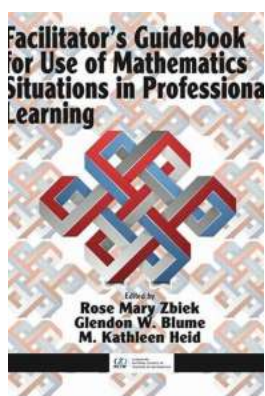
"Jennifer Wathall’s book is one of the most forward thinking mathematics resources on the market. While highlighting the essential tenets of Concept-Based Curriculum design, her accessible explanations and clear examples show how to move students to deeper conceptual understandings. This book ignites the mathematical mind!" — Lois A. Lanning, Author of *Designing Concept-based Curriculum for English-Language Arts, K-12*

"Wathall is a master at covering all the bases here; this book is bursting with engaging assessment examples, discussion questions, research, and resources that apply specifically to mathematical topics. Any math teacher or coach would be hard-pressed to read it and not come away with scores of ideas, assessments, and lessons that she could use instantly in the classroom. As an IB Workshop Leader and instructional coach, I want this book handy on a nearby shelf for regular referral – it's a boon to any educator who wants to bring math to life for students." — Alexis Wiggins, Instructional Coach, IB Workshop Leader and Consultant



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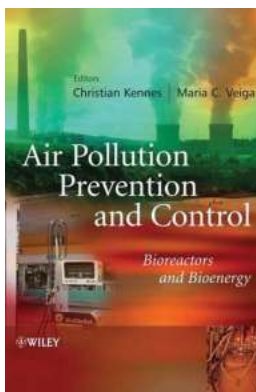
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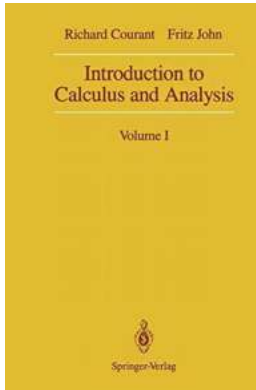
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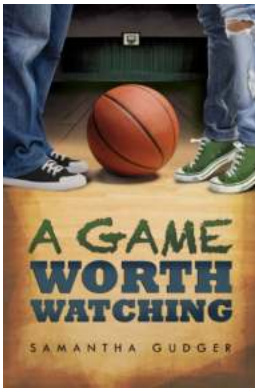
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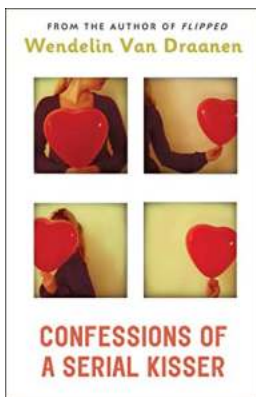
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