

The idea for *Discovering Lessons* series grew over the course of a semester while we were both teaching mathematics methods courses to preservice teachers at our respective universities. During class sessions, we noticed that teacher candidates realized the urgency and importance of teaching mathematics in a way that provided K-through-12 students with meaningful and authentic mathematical tasks related to the Common Core State Standards. However, they were restricted by their experience and understanding of the mathematics content as well as their understanding of the transition to CCSSM. These preservice teachers could take an activity given to them and begin to effectively teach it in their field placement, but they had difficulty finding their own meaningful activities that were aligned with the CCSSM content standards and standards for mathematical practices. In class, teacher candidates would often ask questions about lessons in the NCTM journals such as “What grade would this activity be used in?” “During what standard-based unit would it be best to use this activity?” “Where can I find an activity to teach volume?” and “How do I determine ways to develop the mathematical practices?” It was apparent that they were striving to be effective teachers but needed help with alignment to both the CCSSM content standards and standards for mathematical practices. Teacher candidates are constantly seeking resources on the Internet. These are often lessons that have not been carefully tested or peer-reviewed. We struggle to get them to avoid this practice—but it highlights the need for rich resources that provide more meaningful options and explicit alignment to CCSSM.

During this same semester, we had consistently used activities from NCTM’s journals *Teaching Children Mathematics*, *Mathematics Teaching in the Middle School*, and *Mathematics Teacher* for the various methods courses, both during class sessions and for assignments in field work. Teacher candidates were fully aware that NCTM journals provided useful resources, but they were overwhelmed by the task of correctly picking activities from the journals that aligned to the specific content they were teaching. This gap in resources provided the seed for this publication.

Although we initially thought of the series as a response to pre-service teacher candidates’ needs, we consulted with numerous in-service classroom teachers to see if they would be interested in the volume of this series that applies to their grade level, and the response was extremely positive. Many of the teachers in the group have been teaching the same grade for many years and are now tasked with teaching new topics—and thereby can no longer draw from all the same lessons they have been using. The overall reaction we heard was that classroom teachers are seeking support for the new CCSSM curriculum and would greatly appreciate a resource that provides ready-made alignment to

high-quality, peer-reviewed, engaging activities reviewed by NCTM members that they can use with their K-through-12 students.

This book provides a timely resource to preservice and in-service teachers that will help ensure they are using activities that align to the CCSSM content standards and standards for mathematical practice—which they are aiming to successfully address in their classroom. It is assumed that because all articles published by NCTM are already peer-reviewed at the national level, the pedagogy within each article is sound and of exceptionally high quality.

These publications directly align to NCTM’s equity guidelines because many of the articles have connections to teaching practices that respond to students’ different needs and have diversity listed as one of their key words. In addition, numerous articles foster “mathematics for all” and many articles specifically address the learning of students with special needs.

We must also discuss what this book does not do. This book does not contain all articles published in *MTMS*. There were some articles that did not align to a specific CCSSM content standard for various reasons, such as the article was more pedagogically based than content focused, it aligned better to an elementary (K–5) or a high school (9–12) standard, and so on. Some articles not included were of extremely high quality, but simply did not align to the purpose of this particular book. Furthermore, many articles from particular *MTMS* departments, such as the “menu of problems,” were not included because each article or collection of problems covered so many different topics it was impossible to categorize.

The CCSSM content standards and standards for mathematical practice are both new to the mathematics education community and complex in nature. We welcome your suggestions as we add to this collection of ideas.

REFERENCE

National Governors Association Center for Best Practices, Council of Chief State School Officers. (2010). *Common Core State Standards for Mathematics*. Washington, D.C.: National Governors Association Center for Best Practices, Council of Chief State School Officers. Available at <http://www.corestandards.org/Math>.

We believe that Common Core State Standards correlations in this book will be an invaluable resource to help you make the most of the rich articles and resources in *Mathematics Teaching in the Middle School* (MTMS).

- The Table of Contents is segmented by Grade, Domain, and Cluster. Simply click on the Domain or Standard of your choice and that hyperlink will navigate directly to the section in this e-book that contains abstracts for the *Mathematics Teaching in the Middle School* articles we identified as aligned to that standard. Many articles are aligned to multiple content standards
- From that section, click on the MTMS article name, and you will be linked directly to the appropriate page at www.nctm.org where you can download the article if you are a subscribing member, or purchase it.
- You can also click on the Domain in this section and you will be linked directly to the Domain page at www.corestandards.org, which has specific information about each Standard and Cluster.

As you are reviewing the abstracts for potential articles that contain lessons and activities aligned to your choice of Standard, you will notice several other helpful indicators. We have included the Standards for Mathematical Practice (e.g. MP.1, MP.2, etc.) that we felt would be most developed in students by using the activity in the article. This list is not exhaustive and how you structure and use the lesson will largely determine which practices are addressed. Additionally, we indicated whether the article used interdisciplinary connections **I**, encouraged the use of technology **T**, included methods for differentiation **D** (special education, ELL, struggling learners, gifted, or other), and if the article included reproducible activity sheets **A**. By including the Standards for Mathematical Practice and other connections we hope you can easily choose articles that best meet the needs of your students.