

Teaching Through Context to Bring Joy and Wonder to Mathematics

Grades K-5

Sue O'Connell
 @SueOConnellMath
 ATMNE Conference 2022

Literature Examples from the Session

Math Skill	Children's Literature	Math Lesson Idea
Counting concepts	<i>Grandma's Purse</i> by Vanessa Brantley-Newton	Students count collections of items that might be in Grandma's purse.
Understanding the operation of subtraction	<i>10 Gulab Jamuns: Counting with an Indian Sweet Treat</i> by Sandhya Acharya	Explore what happens as the children eat some gulab jamuns.
Exploring +10	<i>Thanking the Moon: Celebrating the Mid-Autumn Moon Festival</i> by Grace Lin	Investigate what happens when 10 more mooncakes are added to a plate.
Adding a single-digit number to a 2-digit number	<i>Miss Nelson Has a Field Day</i> by James Marshall	Calculate the score when the football team scores 3 or 7 points.
Exploring the concept of division	<i>Around Our Way on Neighbors' Day</i> by Tameka Fryer Brown	Divide various foods between guests at a block party.
Understanding Elapsed Time	<i>Bilal Cooks Daal</i> by Aisha Saeed	Calculate the time the children spent doing various activities as the daal cooked.
Adding 3-digit numbers with regrouping	<i>Saffron Ice Cream</i> by Rashin	Calculate the distances driven by the family on various road trips.
Dividing a unit fraction by a whole number	<i>Born and Bred in the Great Depression</i> by Jonah Winter	Solve fraction division problems related to sharing food during the depression.
Adding decimals	<i>Tia Isa Wants a Car</i> by Meg Medina	Explore addition of decimals to the hundredths related to saving money.
Plotting points on coordinate grids	<i>How to Solve a Problem: The Rise (and Falls) of a Rock-climbing Champion</i> by Ashima Shiraisi	Plot the points of each hand- and foothold as Ashima climbs a boulder.
Two-digit subtraction without regrouping	<i>Too Many Toys</i> by Michael Shannon	Calculate how many toys are left after Spencer gives some away.

*All lesson examples come from the *Math by the Book* series (Heinemann, 2022). Full lessons, problems, writing prompts, and practice games are available for each book.

For More Literature ideas:

K-2 Math + Literature:

<https://padlet.com/sueoc46/j3uevoy154m1fuhb>

Grades 3-5 Math + Literature:

<https://padlet.com/sueoc46/who7w8089bm6r6k2>

Culturally Relevant Math + Literature:

<https://padlet.com/georginarivera123/2ygfo12jusaomm7s>

To download 120 book titles paired with K-5 math topics, go to:

www.mathbytheBook.com

To interact with colleagues or gather more ideas:

Join our Facebook community focusing on teaching K-5 math

- Join the *Math in Practice/Math by the Book* Facebook Group

Explore Sue's website: www.qualityteacherdevelopment.com

Teacher Resource Books by Sue O'Connell
Published by Heinemann (www.heinemann.com)

Math by the Book (Heinemann, 2021)

This k-5 series shows ways to teach mathematics through the context of children's literature. It is filled with lessons that show the power of teaching mathematics through models and math talk. It includes games to practice the math skills, word problems, and lots of talk/writing prompts, along with online resources and video coaching. To learn more, or to download a list of children's literature, visit the website at www.mathbythebook.com.

Math in Practice (www.mathinpractice.com)

This series is filled with lesson ideas, instructional strategies, practice tasks, and many online printable resources to make teaching K-5 math more meaningful and more fun. There is a book for each grade level K-5 that contains a wealth of grade-specific activities, as well as a *Guide for Teachers* filled with instructional strategies to support greater understanding of math concepts. A *Guide for Administrators* offers tips and strategies for math coaches/administrators. Visit the website at www.mathinpractice.com to view samplers, see videos, and learn more about the series.

Putting the Practices into Action - Implementing the Common Core Standards for Mathematical Practice K-8 with John SanGiovanni

The Standards for Math Practice are the heart and soul of the Common Core State Standards. This book explains each standard in teacher-friendly terms and highlights practical activities to make the standards come alive in classrooms. It contains PLC study group questions and online resources.

Mastering the Basic Math Facts for Addition and Subtraction
Mastering the Basic Math Facts for Multiplication and Division
with John SanGiovanni

Through investigations, discussions, visual models, children's literature, and hands-on explorations, students explore the math operations, and through engaging, interactive practice achieve fluency with basic facts. A teacher-friendly CD filled with customizable activities, templates, recording sheets, and teacher tools simplifies your planning and preparation. Over 450 pages of reproducible forms are included in English and Spanish translation.

The Math Process Standards Series

Each book in this series is a practical guide for helping students refine their skills in the highlighted math process (problem solving, communication, reasoning, representations, connections). You will find specific teaching strategies and tips to help all students strengthen their skills. Included with each book is a CD filled with teacher tools and customizable student activities to allow you to change names, data, or spacing for a quick way to differentiate instruction within your classroom.

Introduction to Problem Solving ***Introduction to Communication***
Introduction to Representation ***Introduction to Reasoning and Proof***
Introduction to Connections

All books in this series are available for Grades PK-2, Grades 3-5, and Grades 6-8.

For more ideas:

Follow Sue on Twitter @SueOConnellMath

Or visit Sue's website at: www.qualityteacherdevelopment.com