

# MATHUP CLASSROOM

A digital resource for Kindergarten to Grade 8 that empowers teachers with just-in-time professional learning support while providing an engaging resource for students that addresses all of the new Ontario curriculum requirements.





I am so pleased to invite you to have a look at a resource that puts together everything important that I have learned about teaching math over a long career. I love the way MathUP Classroom's focus is on professional learning for teachers while still providing rich student materials. I love the fact that I have finally realized how important it is to share with teachers why I make the decisions that I do so that teachers can make better use of the materials and build their own deeper understanding of math. I love the fact that the material is digital, making it easy to update and improve when good suggestions come to us. I love that I can share with teachers what it looks like to focus on the most important ideas in math and how to effectively do that. And I love that I can help teachers with some of their planning so that they can concentrate on adapting their instruction to the very specific needs of their own students. I really believe that MathUP Classroom is incredibly unique and the best thing that I have ever written.

This version of MathUP Classroom addresses all the expectations in the new Ontario curriculum, including attention to financial literacy, coding, and mathematical modelling. MathUP Classroom is written in such a way that it supports the development of critical social-emotional skills.

Whether you are a teacher who is confident in teaching math or not and whether your students are confident in math or not, you will find lots to dig into and learn from in MathUP Classroom.

Marian Small

## **Professional Learning — Right When You Need It**

Short, targeted videos and teaching notes from Marian are woven throughout the resource and embedded right where you need them. Key topics provide support on:

- focusing on the most important mathematical ideas through Essential Understandings
- building content and pedagogical knowledge
- teaching with intention and purpose
- effectively consolidating the learning
- differentiating instruction
- assessing meaningfully





#### The Next Best Thing to Having Marian in the Classroom With You Every Day

**Key features** such as "And the Point Is," "How You Can Handle This," and "What You Could Do If" help teachers make thoughtful, intentional decisions and get the most out of their students' learning.



Note that students do not need to actually determine the values of the terms.

This question is truly open-ended. There is no right answer, but students should explain why they chose the pattern they did.

### **A Solid Foundation**

All of the 2020 Ontario curriculum requirements are addressed through the use of **Essential Understandings** that spiral through all grade levels of MathUP. This helps teachers see what to emphasize to build solid foundations in skill development and conceptual understanding.

#### Curriculum Coverage Made Easy

There are about 75 lessons per grade level in MathUP Classroom in Grades 1–8 that address all the 2020 Ontario math curriculum expectations. This gives teachers peace of mind in knowing that they have met all curriculum requirements while giving them the flexibility to spend more time on some lessons, if they want to, or spend time on the additional student activities that are provided, such as Number Talks and Games & Puzzles.

The Kindergarten material fully addresses the current Ontario Kindergarten math curriculum, with a focus on how to use student inquiry to develop rich mathematical thinking.



#### Differentiation

Careful attention has been paid to allowing for multiple entry points for students throughout MathUP. Differentiation support is available throughout lessons, inquiries, activities, and assessments in MathUP to support both students who are struggling and students who can handle additional challenge.

#### Differentiating Instruction ①

Parallel Tasks ①

If students are strugging to predict, you could direct them to select Patterns A and B, which are somewhat simpler. Or you might ask about positions 20 and 60 instead of positions 29, 55, and 103.

Students seeking more of a challenge should probably include Pattern C or Pattern D, both of which are more challenging. They could also be encouraged to develop a pattern with two attributes in Question 2.

#### What Could You Do If ... 🕐

Students start drawing all of the shapes or writing all of the numbers to get to the required terms. You could ... Allow students to draw up to 20 shapes but no more. Encourage them to see how drawing the first 20 might help them predict. Technically, it is not incorrect to write all of the numbers or draw all of the shapes, but students who do this are not building algebraic thinking.



#### **Flexible Implementation**

Because MathUP Classroom is designed for both digital and in-person learning environments, the resource works seamlessly in either environment as well as in hybrid environments.





Pattern A

Pattern B

Pattern C

#### Assessment

MathUP provides a variety of tools to help you plan for Assessment for Learning, Assessment as Learning, and Assessment of Learning, including Diagnostic Tasks for every topic.

### **Inclusive Student Materials That Address the Entire Curriculum**

#### Three-Part Lessons

Three-part lessons encourage students to be active and engaged mathematical thinkers and problem-solvers.



A school has only Grade 7 and Grade 8 students. The ratio of Grade 7 students to Grade 8 students is 17 to 21.



#### **Number Talks**

A bank of Number Talks support the development of conceptual understanding and flexibility in thinking about numbers and operations.

#### **Cross-Strand Tasks**

Cross-Strand Tasks provide opportunities for students to revisit and build connections among concepts from at least two different strands.

#### **Brain Benders**

Brain Benders are engaging open questions that promote mathematical thinking and reasoning and allow students to apply what they have learned.

#### **Contributing Authors:**

Kerry Dwyer-Mitchell Graham Fletcher Suhana Kadoura Callie Lane Clark Masters Jon Orr

# How many dogs at your local shelter could you walk in a day?



Kyle Pearce Ryan Tackaberry Ruth Teszeri



#### **Hands-on Games and Puzzles**

Hands-on games and puzzles help students develop computational fluency and mathematical thinking skills and foster self-confidence in and a positive attitude toward math.

#### **Digital Games**

Digital games provide an engaging, interactive environment to allow students to practise what they have learned.





#### **Supporting Activities**

Supporting activities and games for Grades 1 and 2 provide opportunities for assessment for learning, reteaching, practice, application, communication, reasoning, and problem solving.

#### **Wonder Tasks**

Wonder Tasks (three-act video tasks) provide inquiry-based learning opportunities for students to share their problem-solving strategies and mathematical thinking and to make connections among mathematical ideas.



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## MathUP Classroom Single-User Licence\*

For more information about MathUP Classroom, available implementation support, and pricing, please contact your Rubicon representative or sales@rubiconpublishing.com.

\* The MathUP Classroom Single-User Licence is a one-time purchase licence that allows access for one user.

# MARIAN SMALL

# **OPEN QUESTIONS** FOR THE THREE-PART LESSON

You'll be surprised how far you can go just by asking the right questions.



**Pre-order now!** 





## Use these resources on their own or with MathUP!

To learn more about **MATHUP**, please visit



www.mathup.ca

Rubicon Phone/Fax: 1-800-336-0980 | sales@rubiconpublishing.com | www.rubiconpublishing.com