



An Asynchronous Online MSAA Professional Development workshop for: Math Educators, Middle and High School

Expanding Math Mindsets:

Digital Tools & Resources to Engage Middle & High School Students



Featuring Seaside Educational Consultants Presenter: **Brian Skeffington**

Asynchronous Online Workshop

- Earn 15 PDPs; Approved by DESE for Licensure
- Registrants work at their own pace within allotted timeframe

WORKSHOP STRUCTURE:

MSAA offers this asynchronous workshop in five modules. When the instructor signs off on completed work, registrants will receive an assessment form which will generate a PDP certificate.

Registration is now open. The workshop portal opens October 1, 2021, and closes January 15, 2022.

Content Area: Mathematics

Fees: Members: \$405/all five modules
Non-Members: \$540/all five modules

REGISTER NOW

15 PDPs

Module 1: Using Math (Number) Talks to Build Conceptual Understanding

Mental math scares many students (and adults for that matter!) because they believe they are supposed to "just know" answers from memory or recall a method that was shown to them in a class.

This module will provide teachers with a general understanding of math/number talks and how they can be implemented in their classrooms, regardless of grade levels or curricula. We will explore the power of Math Talks as a way to embrace the flexibility of numbers, broaden mathematical strategies, and build confidence.

After this module, participants will be able to:

- Describe the key characteristics of a math talk.
- Understand the roles of teachers and students in math talks.
- Explain how math talks can be a powerful tool.
- Plan math talks to incorporate into their instruction.

Module 2: Getting Started with Desmos

Desmos is a one-stop shop for interactive lessons and activities designed by teachers and for teachers. These activities aim to celebrate the different ways students come to know mathematics, while also providing teachers with real-time data that automatically saves as students work.

This module will provide teachers with a general understanding of the Desmos calculators - scientific and graphing - that are now embedded in MCAS and PSAT/SAT testing.

After this module, participants will be able to:

- Use the basic features of Desmos calculators.
- Understand the benefits of the Desmos Teacher platform (teacher.desmos.com).
- Search for pre-existing activities created by Desmos developers and other teachers.
- Set up classes on Desmos and assign activities to those classes.
- Implement pre-made activities during a lesson.

Module 3: Desmos for Intermediate Levels

In this module, we will go beyond the basics of Desmos and focus on how to add pre-made activities to your "Collections", edit activities to incorporate all the features Desmos has to offer, and even create your own activities that otherwise may have been worksheet based in the past. Participants in this module should be familiar with the Desmos Teacher platform and its basic features - creating an account, creating/importing classes, and using premade Desmos activities in the classroom.

After this module, participants will be able to:

- Create and organize "Collections" of activities on the Desmos Teacher platform.
- Edit premade activities and save to your account.
- Create activities from scratch and share them with the world.

Module 4: Using Open Middle to Achieve Greater Depth of Knowledge

Are you looking for new ways for your students to get the practice we all know they need without "drilling and killing" everyday? The problems found on Open Middle generally require a higher Depth of Knowledge. They support the Common Core State Standards and provide students with opportunities for discussing their thinking.

In this module, we will explore the idea of Depth of Knowledge (DOK) and what that means in the Math classroom. We will use Open Middle problems as a general example of a different way for students to get practice (procedural fluency), demonstrate conceptual understanding, and promote mathematical thinking.

After this module, participants will be able to:

- Explain the different levels of Depth of Knowledge (Webb) in Math.
- Differentiate between problems with different DOKs.
- Understand how powerful Open Middle problems can be in developing conceptual understanding.
- Incorporate Open Middle problems in classrooms.

Module 5: The Power of Math Modeling

Modeling is emphasized in national and state standards, the Standards for Mathematical Practice, as well as basically every curriculum out there.

In this module, we will discuss what modeling means and what it does not. We will also learn ways to take traditional problems and easily adapt them to fit our definition of modeling.

After this module, participants will be able to:

- Explain what modeling means and what it looks like in a Math classroom.
- Provide examples of modeling problems.
- Understand what students should be doing/creating while modeling.
- Take traditional problems and adjust them to make them modeling problems.

Brian Skeffington is an ardent educator who is dedicated to helping students and teachers achieve success in the math classroom. He became a high school math teacher in 2010, continuing as a Department Head and 6-12 Math Curriculum Coordinator. Deciding to return to the classroom full time, he is now an 8th grade math teacher. Being a huge believer in developing a growth mindset as a way to guide teaching and learning, Brian is dedicated to helping students and teachers engage in mathematical discourse that results in deeper levels of understanding.



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