CEMC: Bringing Teachers Together Virtually
Tuesday, August 17 – Thursday, August 19
Conference Schedule (subject to change)

Note that there are two time slots each day. Each time slot will have three parallel sessions running live. The sessions will be related to one of:

- Grade 7/8 Mathematics
- High School Mathematics, or
- Computer Science/Technology.

All sessions will run for approximately 1 hour. They will be recorded and made available online afterwards.

Note: All times are Eastern Daylight Savings Time (Waterloo, ON)

Tuesday, August 17			
Session Time	**Grade 7/8 Math**	**High School Math**	**Computer Science/Technology**
3:30 p.m.	Open Tasks for Classroom Instruction and Assessment *Presenters: Marcel TeBokkel, Avital Amir*	Integrating Problem Solving in Grades 9 and 10 *Presenter: Jason Van Rooyen*	My Favourite Projects *Presenter: Carmen Bruni*
7:30 p.m.	Mental Math Through Number Talks and Strings *Presenter: Elli Weisdorf*	They Love Me, They Love Me Not Options for Digital Tools That Work *Presenters: Carole Bilyk, Sherrie Borrows*	Natural Language Processing in Python Using Spacy *Presenter: Sam Scott*

Wednesday, August 18

Session Time	Grade 7/8 Math	High School Math	Computer Science/ Technology
3:30 p.m.	Student Recovery - A Reflection for Grade 7-8 Teachers *Presenter: Gerard Lewis*	Understanding Secondary Mathematics: Returning to the Why *Presenter: Rich Dlin*	Physical Computing with Phidgets and the Raspberry Pi *Presenter: Lucas Pacentrilli*
7:30 p.m.	What Changes Are Worth Keeping? *Presenter: Nicoleta Babutiu*	Creating Engaging Lessons and Assessments in the Desmos Activity Builder *Presenter: Lindsay Parchimowicz.*	Inclusive Strategies for CS Classrooms *Presenter: Maia Heggie*

Thursday, August 19

Session Time	Grade 7/8 Math	High School Math	Computer Science/Technology
3:30 p.m.	Virtual Math Manipulatives in Grades 7 and 8 *Presenters: Michael Frankfort, Will Gourley & Elli Weisdorf*	FORCED TO CHANGE: What came out of my COVID-19 teaching year! *Presenter: Sheri Hill*	Exploring TEJ3M Using the New Raspberry Pi Pico Microcontroller and Python *Presenter: Grant Hutchison*
7:30 p.m.	Seeing the Meaning *Presenter: Paul Alves*	Indigenous Students and High School Mathematics *Presenter: Gordon Naylor*	Taking Advantage of the Teams Features of Replit *Presenter: Michael DiRamio*

Session Descriptions:

Grade 7/8 Math Sessions

Open Tasks for Classroom Instruction and Assessment
Presenters: Marcel TeBokkel, Avital Amir

The learning success stories we've been hearing around instruction and assessment include the use of differentiated questioning and collecting evidence of learning in a variety of ways.

Adapting questions by making them low floor/high ceiling, open and/or parallel will allow for more entry points for students. When we use these types of questions in assessments, students have the opportunity to demonstrate their understanding rather than mimicking a non-thinking prescribed algorithm. A portfolio is one way to capture the evidence of observations, conversations and products.

Mental Math Through Number Talks and Strings

Presenter: Elli Weisdorf

Teachers and administrators often wonder about Number Talks and Strings, what they are, and how they can be used in classes to promote thinking and mental math. This session will discuss the differences between Number Talks and Strings, their benefits, and how to implement them in intermediate virtual classes. Participants will learn about ways to create a safe learning environment for students to communicate their thinking. They will discuss how to select Number Talks that are responsive to student needs and ways to use them to assess student thinking.

Student Recovery - A Reflection for Grade 7-8 Teachers
Presenter: Gerard Lewis

The pandemic and virtual teaching has hit students and teachers hard. The roadmap for the 2021-2022 school year must include post-pandemic awareness for student recovery and educator reflection. This session will cover a variety of strategies and resources to help with building relationships, fostering empowerment, promoting a thinking classroom pedagogy, and implementing tools that boost student creativity and engagement.

What Changes Are Worth Keeping?
Presenter: Nicoleta Babutiu

Last year, COVID19 forced teachers to break with the past and imagine their teaching world anew in a very short time frame. The pandemic imposed all kinds of changes to the educational system. While some of them may no longer be needed whenever the pandemic is over, teachers may want to keep a few of these changes.
This presentation relays the story of my journey through the last school year - from struggling with my own prejudices about online teaching, to embracing the brave new online world as I made my way, pedagogically speaking, through the global pandemic.
A variety of challenges and changes to the teaching and learning processes will be discussed.

Virtual Math Manipulatives in Grades 7 and 8
Presenters: Michael Frankfort, Will Gourley & Elli Weisdorf

Since the pandemic began, education has been forced to adapt to an online environment. Educators recognize the importance of representing abstract math concepts in a visual manner in order to support deeper understanding and make connections between concepts. In this workshop, participants will explore a variety of free virtual tools that have engaged our students while learning in a virtual environment. Educators will walk away with a toolkit of effective and easily accessible virtual manipulatives to share with students in their classrooms.

Seeing the Meaning
Presenter: Paul Alves

More and more research is showing that students with a strong spatial understanding will benefit in their understanding of math as they advance from year to year. But how do we capitalize on this spatial understanding for topics involving number sense like integers and fractions? In this session we will explore a trajectory of learning for these topics that builds on spatial understanding and provides a strong conceptual foundation for further learning. We will also explore how this development leads into topics in the high school curriculum.

High School Math Sessions

Integrating Problem Solving in Grades 9 and 10
Jason Van Rooyen

This session will examine the when, the where and the how of using problem solving in grades 9 and 10. A wide variety of problems will be examined and discussed, with varying levels of difficulty.

They Love Me, They Love Me Not

Options for Digital Tools That Work

Presenters: Carole Bilyk, Sherrie Borrows

There are so many great ideas out there for online math instruction. But there's so little time to wade through the resources that are best suited to you and your students. In our roles as mentors, learners, substitutes, teachers, tutors, and presenters, we took many for a test drive this past year. We missed the mark as often as we hit the bullseye. We learned a great deal, and we are all about keeping it real.

Join us as we share our stories and successes. We will skim over the failures and highlight what we found worked best. Two of our absolute favourites are Jamboard and Polypad - these are fabulous tools to make connections literally and figuratively!

Understanding Secondary Mathematics: Returning to the Why
Presenter: Rich Dlin

This session will cover motivation and methods for a return to a purer approach to secondary mathematics. The focus is on the *why* of mathematics and not so much on the *how*. Topics will range from 'simple' things like exponent rules and solving equations, to more sophisticated concepts like teaching students to think deeply about zero and infinity, and why limits really are a big deal. This type of approach makes math easier to understand, and pays huge dividends as students progress through to Grade 12

Creating Engaging Lessons and Assessments in the Desmos Activity Builder
Presenter: Lindsay Parchimowicz.

There are many pre-made amazing math activities on the website teacher.desmos.com, but did you know that you can create highly customizable lessons and assessments using the Desmos Activity Builder? This tool lets you create self-checking graphs, tables, equations, card matching activities and more. The teacher dashboard also allows you to view progress live while students are working which allows for quick assessment of the understanding your class has on a topic. In this presentation, you will have time to explore different sample lessons and assessments and you will learn how to put together your own custom lessons.

FORCED TO CHANGE: What came out of my COVID-19 teaching year!
Presenter: Sheri Hill

Google Chat, Jamboard, Multiple Attempt Quizzes, Reassessing, EquatiIO and so much more!! Throughout our teaching lives many of us have experienced a transformation in our delivery, assessment styles, and communications with students, especially over the last year. During this period, I have spent a vast amount of time trying different online programs and apps that mirrored the collaborative and thinking classroom style that I so loved. Throughout this journey with my students, I have discovered a number of ways to enhance my students' learning, emotional needs, and enjoyment of mathematics. I am excited to share these resources and ideas with you so we can all better meet our students' needs.

Indigenous Students and High School Mathematics
Presenter: Gordon Naylor

Tansi kahkiyaw, kitatamiskatinawaw (Hello everyone, I greet you all).

I am a proud member of the Muskoday First Nation and have been a math teacher in reserve schools for the past 8 years. I have spent the last 7 years teaching in Neyaskweyahk (Ermineskin Cree Nation, in Maskwacis, Alberta). This presentation will look at historical and contemporary issues affecting Indigenous People's and western education, particularly issues surrounding mathematics education. I will also explore some of the contextualized concepts I have used in my classroom to help close the gap in mathematics education.

Presenter: Gordon Naylor

Computer Science/Technology

My Favourite Projects
Carmen Bruni

In this talk, I'm going to present some of my favourite final project ideas for an introductory computer science programming class. I also encourage attendees to bring your own great final project ideas to share with everyone time permitting! The hope is that by sharing these, we can increase the pool of interesting problems for everyone to be able to use in future terms.

Natural Language Processing in Python Using Spacy
Sam Scott

Spacy is a python module that implements a simple pipeline for both symbolic and data-driven Natural Language Processing. In this workshop we'll take a look at the most basic functions that spacy offers for information extraction and linguistic pattern matching, and discuss how these techniques might be used to help students develop a simple FAQ Bot. It's up to you whether or not you want to engage in some coding during our very short workshop, but if you do want to code along with me, you should have Python 3 with the spacy module and core English language models installed. Use "pip install -U spacy" for the spacy module. Then use "python -m spacy download en_core_web_lrg" to get the "large" core English language module. The "small", "medium", and "transformer" models can also be installed in the same way. They're called "en_core_web_sm", "en_core_web_md", and "en_core_web_trf". To download these language models, it might be necessary to add Python's …\Library\bin and …\Scripts folders to your PATH environment variable.

Physical Computing with Phidgets and the Raspberry Pi
Lucas Pacentrilli

Phidgets are interactive USB sensors that make physical computing easy. No soldering or breadboards required—students simply plug in a Phidgets sensor, code in their preferred language and start creating. In this session, you will learn how to create a data logging system with Phidgets and the Raspberry Pi using Python. You can use this system to remotely monitor a lab, greenhouse, or any area of interest in your school.

All attendees will receive a free introductory kit and a bonus sensor of their choice ($50 value).

To learn more, visit our website at: https://www.phidgets.com/education

Inclusive Strategies for CS Classrooms
Maia Heggie

The field of Computer Science has long been criticized for its lack of minority representation. While more schools add CS programs and solutions to promote diversity, CS still falls considerably short of other STEM disciplines. Knowledge of computer science (CS) is fundamental to students' future careers. This presentation will help educators with context and concrete steps to build and expand inclusivity in CS education. By actively engaging students in CS, educators can create an even more robust pipeline of creativity and innovation to tackle the world's challenges and help ensure students have the skills needed to thrive today and tomorrow. Strategies include tech tools, thoughtful recruitment, and classroom practices. The presentation will consist of a deep dive into bias, recruitment, and best classroom practices to engage and encourage curiosity into the discipline of Computer Science. Videos, articles, and activities will provide educators an opportunity to question, explore, and ignite their passion for inclusivity CS for all!

Exploring TEJ3M using the new Raspberry Pi Pico Microcontroller and Python
Grant Hutchison

TBA

Taking Advantage of the Teams features of Replit
Michael DiRamio

TBA