

Title: Collaborating, Exploring Virtual Manipulatives, and Deepening Conceptual Understanding on Factors in a Distance Learning Classroom.

Abstract: Online learning has changed how we teach, but not what we teach. This session will give participants the opportunity to explore using Jamboard and Google Slides to collaborate as they dig into the conceptual understanding of “what is a factor”? We will start with what is multiplication/division and connect to factors, prime numbers, and square roots all using the exploration of virtual manipulatives. The focus will be on both building conceptual understanding and coherence.

Description:

Online learning has changed how we teach, but not what we teach. In a world of distance learning, where many of us are no longer in the classrooms, we have lost access to a lot of our educational “tools/resources” and have been forced to change our routines. This new online environment doesn’t have to mean that we sacrifice the important parts of the classroom/learning environment. In this session we will focus on ways students can continue to collaborate with each other, explore virtual manipulatives, and develop conceptual understanding. During this session we will explore “factors of numbers”. We will use a Jamboard as our platform so that students can collaborate and work together. We will start by having participants explore what it means to multiply and divide, by arranging squares on the Jamboard slide. We will continue and connect the idea to finding factors of numbers. Focusing on building coherence, participants will use the same virtual manipulatives and platform to determine if a number is prime. We will end with looking at numbers and determining if they are perfect squares and if not, estimating their value. We will also demonstrate how the same activity can be done with Google Slides.

Anticipated Outcome:

I teach math on the ABE campus and co-teach two developmental math classes on the local community college’s campus. After teaching on the college campus for 5 semesters, it has become very evident that students don’t understand the word “factor”. Being able to factor is a huge part of composing and decomposing numbers, simplifying fractions, solving algebraic equations, solving/graphing quadratics, and more. Outside of the classroom, this can also help make numbers easier to compute using mental math. Often in math classes students memorize words, but don’t deeply understand them. This session will help build conceptual understanding for not only factors, but what a prime number is, and what it means to be a square root. Building this coherence will deepen their understanding and as well as give them a tool where they can duplicate the task again with other numbers.