

## TEACHER OFFERINGS SUMMER 2021

This summer [Math]odology will replace our annual institute, “Essential Understanding in Mathematics,” with 9 virtual workshops, offered over two-time frames, (June & July). Teachers will have 18 sessions to choose from, with classes offered both mornings and afternoons.

At [Math]odology, we strive to provide teachers with tools to make the instruction and learning of mathematics accessible to all. Our “Just In Time” workshop series offers rich professional development on the precise topics you need. We understand your time is valuable, as such our workshops will focus on one concept and the development of the core knowledge needed to obtain success. Sarah will incorporate the concrete, pictorial, and abstract models and discuss how to relate these models to achieve abstract thinking and reasoning.

Since 2007, Sarah has held teacher, student, and parent workshops around the globe. Since the pandemic, she and her team have provided hundreds of hours of support to teachers, students, and parents through virtual workshops, webinars, and recorded videos. Her 20 years of teaching mathematics in K-12 classrooms along with her extensive instructor training and her most recent authorship of both the think!Mathematics and Developing Roots texts, places Sarah as a leader in the field.

The sessions have limited capacity; which means you'll be collaborating with smaller groups and learning with educators from around the world. We hope that the time is right for you to join us as we teach less, and learn more!



# TEACHER OFFERINGS SUMMER 2021

All times shown below are in CST Central Standard Time Zone

KINDERGARTEN TEACHERS		
Date	Workshop	Time
June 21	Number Concepts and Measurement	9:00-12:00
	Geometry and Operations	1:00-4:00
July 16	Number Concepts and Measurement	9:00-12:00
	Geometry and Operations	1:00-4:00

GRADE 1-5 TEACHERS		
Date	Workshop	Time
June 23	Addition and Subtraction	9:00-12:00
	Basic Bar Modeling Addition and Subtraction	1:00-4:00
June 25	Multiplication and Division	9:00-12:00
	Multi-Step Bar Modeling Problems with Whole Numbers	1:00-4:00
June 28	Developing Fraction and Decimal Concepts	9:00-12:00
	Operations with Fractions and Decimals	1:00-4:00
June 30	Word Problems involving Fractions and Decimals	9:00-12:00
	Math Fact Fluency	1:00-4:00
July 19	Basic Bar Modeling Addition and Subtraction	9:00-12:00
	Addition and Subtraction	1:00-4:00
July 21	Multi-Step Bar Modeling Problems with Whole Numbers	9:00-12:00
	Multiplication and Division	1:00-4:00
July 23	Developing Fraction and Decimal Concepts	9:00-12:00
	Operations with Fractions and Decimals	1:00-4:00
July 26	Math Fact Fluency	9:00-12:00
	Word Problems involving Fractions and Decimals	1:00-4:00



# JUST IN TIME

## TEACHER SUMMER SERIES

### SESSION DESCRIPTIONS

#### **Kindergarten Number Concepts and Measurement**

We understand that teaching young children must incorporate a developmental approach to counting, comparing, and describing relationships among numbers. During this session, participants will build upon ideas from our young mathematicians with experiences that advance their mathematical understandings. We will incorporate measurement activities as a numerical way to describe a continuous quantity once students understand the different attributes to be measured.

#### **Kindergarten Geometry and Operations**

This session will focus on the four major geometric goals for young mathematicians as well as describing how kindergarten activities should be built around van Hiele's levels of geometric thought. The choice of activities provided for student exploration is designed to build natural excitement around analyzing, drawing, composing, and decomposing shapes. This session will also focus on addition and subtraction structures, and how to help young children develop a plan to structure and record their thinking.

#### **Addition and Subtraction**

During this session, participants will investigate the different strategies in addition and subtraction. The focus will be twofold: developing a strong understanding of numbers in order to use mental computations, and relating place-value understanding to explain the "why" behind the standard algorithm. Participants will see the value of the CPA approach and how the teacher relates ideas in developing conceptual understanding around these operations.

#### **Basic Bar Modeling Addition and Subtraction**

Interpreting the problem structures around the operations helps students understand and connect representations and ultimately write and solve math equations. Participants will use the bar-model as a visual representation to comprehend and solve word problems that involve addition and subtraction structures.

#### **Multiplication and Division**

During this session, participants will investigate the different strategies in multiplication and division. The focus will be both on developing a strong understanding of numbers in order to use mental computations but also relating place-value understanding to teaching the "why" behind the standard algorithm. Participants will see the value of the CPA approach and how the teacher relates ideas in developing conceptual understanding around these operations.

## **Multi-Step Bar Modeling Problems with Whole Numbers**

Interpreting the problem structures around the operations helps students to understand and connect representations and ultimately write and solve math equations. Participants will use the bar-model as a visual representation to comprehend and solve word problems that involve multiple steps.

## **Developing Fraction and Decimal Concepts**

We understand that fractions are one of the most important concepts students need to understand to be successful in future courses. During this session, participants will look at the development of 3 key topics to learning fractions and their connections to decimal representation and the operations of fractions and decimals. The four operations of decimals and fractions will be covered in the course described below.

## **Operations with Fractions and Decimals**

The meaning of the operations around fractions and decimals is the same as the meanings for the operations of whole numbers. During this session, participants will work through the four operations and focus on the relationship of these ideas rather than the common approach of teaching them in isolation. This will provide your students with an integrated understanding, instead of a set of rules and procedures that while they may produce the correct answer, do little to help your student actually *understand* the answer.

## **Word Problems Involving Fractions and Decimals**

During this session, participants will use a bar model as a way of representing word problems and fractional relationships. The visual model allows students to see the proportional relationship and then transform the word problem into equations to solve for the unknown.

## **Math Fact Fluency**

Participants will work through the three-phase process in developing fact fluency. Throughout this session, we will work on the sequencing of facts, develop intentional practice in working toward fluency and look at assessment opportunities.