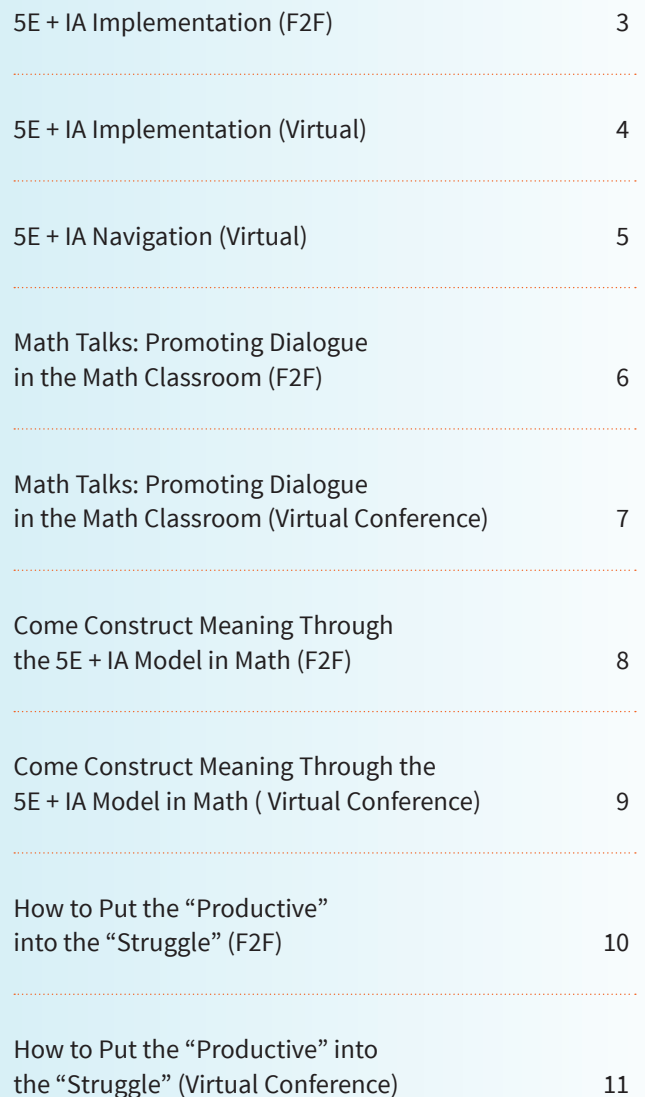


A dark blue horizontal bar with the text 'STEMSCOPES MATH PROFESSIONAL DEVELOPMENT' in white and orange.

**STEMSCOPES MATH PROFESSIONAL DEVELOPMENT**

A table of contents listing professional development topics and their page numbers. The table is separated into sections by horizontal dotted lines.

5E + IA Implementation (F2F)	3
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Title	Type	Time
5E + IA Implementation	Face-to-Face	3 Hour
5E + IA Implementation	Virtual	3 Hour (1 hr increments)
5E + IA Navigation	Virtual	1 Hour
Math Talks: Promoting Dialogue in the Math Classroom	Face-to-Face	3 Hour
Math Talks: Promoting Dialogue in the Math Classroom	Virtual Conference	1 - 1.5 Hour
Come Construct Meaning Through the 5E + IA Model in Math	Face-to-Face	3 Hour
Come Construct Meaning Through the 5E + IA Model in Math	Conference	1 - 1.5 Hour
How to Put the “Productive” into the “Struggle”	Face-to-Face	3 Hour
How to Put the “Productive” into the “Struggle”	Virtual Conference	1 - 1.5 Hour

STEMscopes Product Training includes instructor-guided exploration of the curriculum’s features, resources, and navigation. Teachers actively practice using curriculum materials during product training. This practice may include hands-on use of materials such as preparing for instruction, setting up classroom rosters, and/or using journaling or other features within a product. Additionally, teachers practice using embedded, high impact instructional strategies such as facilitating student discourse or using questions to elicit higher order thinking.

One of the strengths of the STEMscopes product is that “just-in-time, bite-sized” morsels of professional development are provided right within the product at the anticipated point of need. These seamless, teacher-friendly learning opportunities become clear and more widely used when teachers thoroughly understand available resources.

Not only do these trainings help teachers feel more comfortable using STEMscopes, training also facilitates higher levels of student achievement. Research has shown a strong and consistent link between the fidelity of product implementation and student outcomes.

# 5E + IA IMPLEMENTATION 3 HOUR

## Overview

This training is Face-to-Face and designed for a 3 hour time period.

STEMscopes Product Training includes instructor-guided exploration of the curriculum’s features, resources, and navigation. Teachers actively practice using curriculum materials during product training. This practice may include hands-on use of materials such as preparing for instruction, setting up classroom rosters, and/or using journaling or other features within a product.

These trainings not only help teachers feel more comfortable using STEMscopes, they also facilitate higher levels of student achievement. Research has shown a strong and consistent link between the fidelity of product implementation and student outcomes.



## Professional Learning Objectives

- To explore how the 5E model of instruction supports student-driven learning and conceptual understanding.
- To visualize how STEMscopes Math is a vehicle for student success in mathematics.



## TODAY’S AGENDA

15 min	Introduction, Goals, Activator
10 min	Curriculum Site Access and Orientation/Navigation
10 min	Home Components
10 min	Engage - APK/Hook/Foundation Builder
35 min	Explore/Explain Cycle
5 min	Explain - My Math Thoughts - Journal Activity to Practice Writing
10 min	BREAK
5 min	Hook - Post Explore
30 min	Elaborate - Fluency Builders
5 min	Evaluate
15 min	Student Site Navigation/Assignment
10 min	Intervention and Acceleration
10 min	Outside the Scope

# 5E + IA IMPLEMENTATION

## 3 HOUR



### Overview

This training is designed to be similar to the 3 hour Face-to-Face broken up into three 1 hour virtual trainings. These trainings can be delivered in any order that fits the needs of the customer.

STEMscopes Product Training includes instructor-guided exploration of the curriculum’s features, resources, and navigation. Teachers actively practice using curriculum materials during product training. This practice may include hands-on use of materials such as preparing for instruction, setting up classroom rosters, and/or using journaling or other features within a product.

These trainings not only help teachers feel more comfortable using STEMscopes, they also facilitate higher levels of student achievement. Research has shown a strong and consistent link between the fidelity of product implementation and student outcomes.

### Professional Learning Objectives

- To explore how the 5E model of instruction supports student-driven learning and conceptual understanding.
- To visualize how STEMscopes Math is a vehicle for student success in mathematics.



## TODAY’S AGENDA

HOUR 1 - SCOPE NAVIGATION	
5 min	Introduction, Goals, and Activator
5 min	Curriculum Site Access and Orientation/Navigation
10 min	Home Component
5 min	Engage-APK/Hook/Foundation Builder
10 min	Explore/Explain Cycle
5 min	Explain - My Math Thoughts/Picture Vocabulary
10 min	Elaborate
5 min	Evaluate
5 min	Intervention and Acceleration
HOUR 2 - OUTSIDE THE SCOPE	
5 min	Creating A Class
5 min	Embedded Supports
5 min	Assign Work
10 min	Student View
5 min	Fact Fluency
15 min	Grade Level Benchmark Assessments
10 min	Teacher Toolbox
HOUR 3 - A DEEPER DIVE	
10 min	5E Model/STEMscopes Math Virtual Student Experience
10 min	APK/Hook 3.3AE Modeling Fractions
15 min	Explore 1 3.3AE Modeling Fractions
10 min	Lesson Planning Guide
15 min	Questions and Answers

# 5E + IA NAVIGATION

## 1 HOUR

### Overview

This training is virtual and designed for a 1 hour time period.

STEMscopes Product Training includes instructor-guided exploration of the curriculum’s features, resources, and navigation. Teachers actively practice using curriculum materials during product training. This practice may include hands-on use of materials such as preparing for instruction, setting up classroom rosters, and/or using journaling or other features within a product.

These trainings not only help teachers feel more comfortable using STEMscopes, they also facilitate higher levels of student achievement. Research has shown a strong and consistent link between the fidelity of product implementation and student outcomes.

### Professional Learning Objectives

- To explore how the 5E model of instruction supports student-driven learning and conceptual understanding.
- To visualize how STEMscopes Math is a vehicle for student success in mathematics.



## TODAY'S AGENDA

### SCOPE NAVIGATION

5 min	Introduction, Goals, and Activator
5 min	Curriculum Site Access and Orientation/Navigation
10 min	Home Component
5 min	Engage-APK/Hook/Foundation Builder
10 min	Explore/Explain Cycle
5 min	Explain - My Math Thoughts/Picture Vocabulary
10 min	Elaborate
5 min	Evaluate
5 min	Intervention and Acceleration

# MATH TALKS: PROMOTING DIALOGUE IN THE MATH CLASSROOM

## 3 HOUR

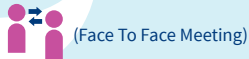
### Overview

This training is Face-to-Face and designed for a 3 hour time period.

How do you get students talking and writing about numbers? Join us for an interactive look at how to promote dialogue and discourse among your students. Walk away with ready-to-implement strategies - like “Decide and Defend” - that will get the conversation started in your classroom.

### Professional Learning Objectives

- To establish the significance of Promoting Dialogue in the Math Classroom and how to use Math Talk and the Decide and Defend Mathematical Routine to advance student learning.



### TODAY'S AGENDA

10 min	100 Number Task/Build Community
45 min	Why is Talk important?
30 min	Three Reads Protocol
10 min	Break/Discussions
5 min	100 Number Task
30 min	Decide and Defend (STEMscopes Component)
15 min	My Math Thoughts (STEMscopes Component)
10 min	Ways Promoting Dialogue in Math Benefits Students
5 min	100 Number Task
15 min	Closure/Candy Bar Reflections

# MATH TALKS: PROMOTING DIALOGUE IN THE MATH CLASSROOM

## 1 - 1.5 HOUR

### Overview

This can either be a conference session or a virtual training and is designed to be a 1 to 1.5 hour presentation.

How do you get students talking and writing about numbers? Join us for an interactive look at how to promote dialogue and discourse among your students. Walk away with ready-to-implement strategies - like “Decide and Defend” - that will get the conversation started in your classroom.

### Professional Learning Objectives

- To establish the significance of Promoting Dialogue in the Math Classroom and how to use Math Talk and the Decide and Defend Mathematical Routine to advance student learning.



(Webinar)



(Conference)



### TODAY'S AGENDA

30 min	Why is Talk important?
20 min	Decide and Defend/My Math Thoughts (STEMscopes Component)
10 min	Ways Promoting Dialogue in Math Benefits Students
15 min	Closure/Candy Bar Reflections

# COME CONSTRUCT MEANING THROUGH THE 5E + IA MODEL IN MATH

## 3 HOUR

### Overview

This training is Face-to-Face and designed for a 3 hour time period. This training solely focuses on the components of STEMscopes without utilizing the online platform.

Explore how the effective 5E +IA model drives student wonder, curiosity, and learning in the math classroom. We will take you through all phases of the model: Engage, Explore, Explain, Elaborate, Evaluate, Intervention, and Acceleration. Take away strategies and ideas for your classroom.

### Professional Learning Objectives

- To explore how the 5E model of instruction supports student-driven learning and conceptual understanding.
- To visualize how STEMscopes Math is a vehicle for student success in mathematics.



### TODAY'S AGENDA

10 min	Quarter Yahtzee/Build Community
10 min	Explore the Es
10 min	Engage: APK/Hook/Foundation Builder
30 min	Explore/Explain Cycle
15 min	Explain: My Math Thoughts
10 min	Break/Discussions
5 min	Quarter Yahtzee
5 min	Revisit Hook Problem
20 min	Elaborate: Fluency Builders
15 min	Evaluate
5 min	Intervention/Accelerate
25 min	Final Word: Effective Use of the 5E Model
5 min	Quarter Yahtzee
10 min	Closure/Concept Map Reflection



# COME CONSTRUCT MEANING THROUGH THE 5E + IA MODEL IN MATH

## 1- 1.5 HOUR

### Overview

This training is a conference session and designed for a 1 - 1.5 hour time period.

This training solely focuses on the components of STEMscopes without utilizing the online platform.

Explore how the effective 5E +IA model drives student wonder, curiosity, and learning in the math classroom. We will focus our time on the STEMscopes Math Explore/Explain Cycle and how students can construct meaning through student-centered lessons that provide ample opportunity for assessment, intervention, and feedback. Take away strategies and ideas for your classroom.

### Professional Learning Objectives

- To explore how the 5E model of instruction supports student-driven learning and conceptual understanding.
- To visualize how STEMscopes Math is a vehicle for student success in mathematics.



(Conference)

### TODAY'S AGENDA

15 min	Explore the Es
15 min	STEMscopes Math: Explore/Explain Cycle
25 min	Final Word: Effective Use of the 5E Model
10 min	Closure/Reflection

# HOW TO PUT THE “PRODUCTIVE” INTO THE “STRUGGLE”

## 3 HOUR

### Overview

This training is Face-to-Face and designed for a 3 hour time period.

Join us in diving into the process of productive struggle. Help students face problems in math and develop grit and creative problem solving techniques. Learn how to provide your students with opportunities to share their reasoning and celebrate the different ways of thinking.

### Professional Learning Objectives

- To establish the definition of productive struggle and the necessary components to have a successful mindset in the math classroom.



### TODAY'S AGENDA

10 min	Create Your Own Math Glyph/Build Community
10 min	What is Productive Struggle?
5 min	What is NOT Productive Struggle?
30 min	Explore (STEMscopes Component)
10 min	Break
5 min	Create Your Own Math Glyph
55 min	Steps to Supporting a Growth Mindset in the Math Classroom
25 min	Jigsaw/Expert Gallery Walk (STEMscopes Component)
10 min	Create Your Own Math Glyph
15 min	Closure/What REALLY is Productive Struggle?

# HOW TO PUT THE “PRODUCTIVE” INTO THE “STRUGGLE”

## 1 - 1.5 HOUR

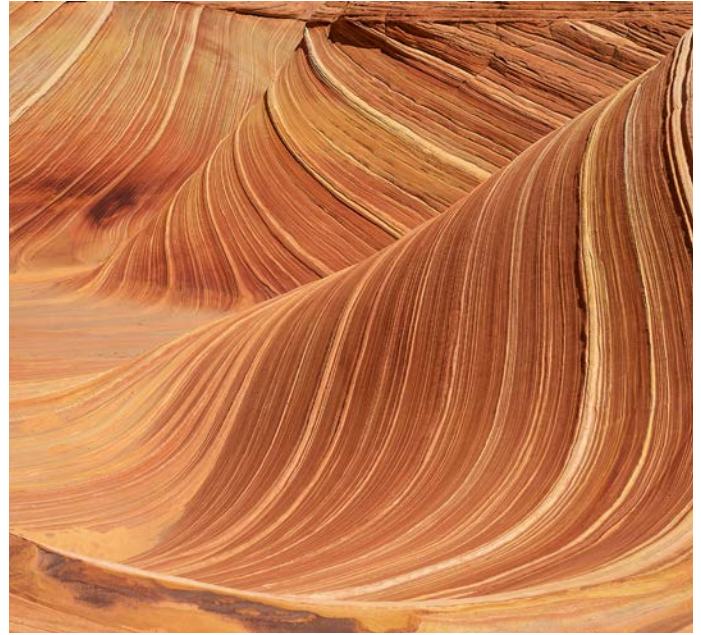
### Overview

This can either be a conference session or a virtual training and is designed to be a 1 to 1.5 hour presentation.

Join us in diving through the process of productive struggle. Help students face problems in math and develop grit and creative problem solving techniques. Learn how to provide your students with opportunities to share their reasoning and celebrate the different ways of thinking.

### Professional Learning Objectives

- To establish the definition of productive struggle and the necessary components to have a successful mindset in the math classroom.



(Webinar)



(Conference)

### TODAY'S AGENDA

10 min	What is Productive Struggle?
5 min	What is NOT Productive Struggle?
30 min	Explore (STEMscopes Component)
15 min	Jigsaw/Expert Gallery Walk (STEMscopes Component)
15 min	Closure/What REALLY is Productive Struggle?