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Social Emotional Academic Development in Math Classrooms

Part 2: Planning to incorporate social and emotional learning into math lessons

Core Advocate Webinar
September 14, 2021

STUDENT
ACHIEVEMENT
PARTNERS



**SOCIAL
EMOTIONAL
ACADEMIC
DEVELOPMENT**
in math classrooms

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Poll:

How many Core Advocate Webinars
have you attended?

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National Core Advocate Network

College- and career-ready standards, including the CCSS, give educators an opportunity to work together and support each other— across districts, states, and content areas. The goal of the Core Advocates Network is to engage educators with the content knowledge and resources they need to support teachers and students in the transition towards a college- and career-ready education.

Join the Network

Interested in joining the Core Advocate network? Start by taking the

[Core Advocates Survey](#)

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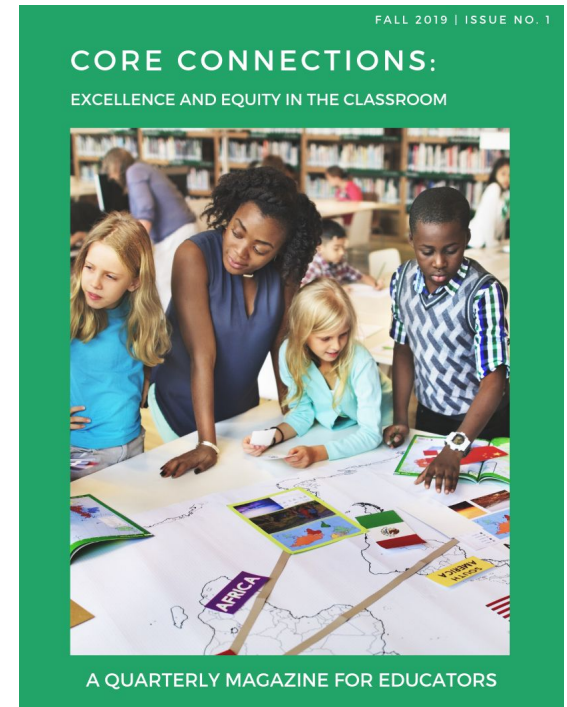
Keep up to date on free resources, upcoming webinars and other professional learning opportunities, job postings and more!



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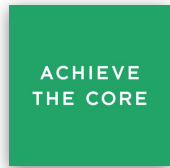
Learn More About Us!

- Contact Jennie Beltramini (jbeltramini@studentsachieve.net)
Joy Delizo-Osborne (jdelizo-osborne@studentsachieve.net)
- Complete this survey to join our database (and mailing list):
www.achievethecore.org/ca-signup
- Visit our website:
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Introductions

hello!



**JENNIE
BELTRAMINI**

Student Achievement
Partners



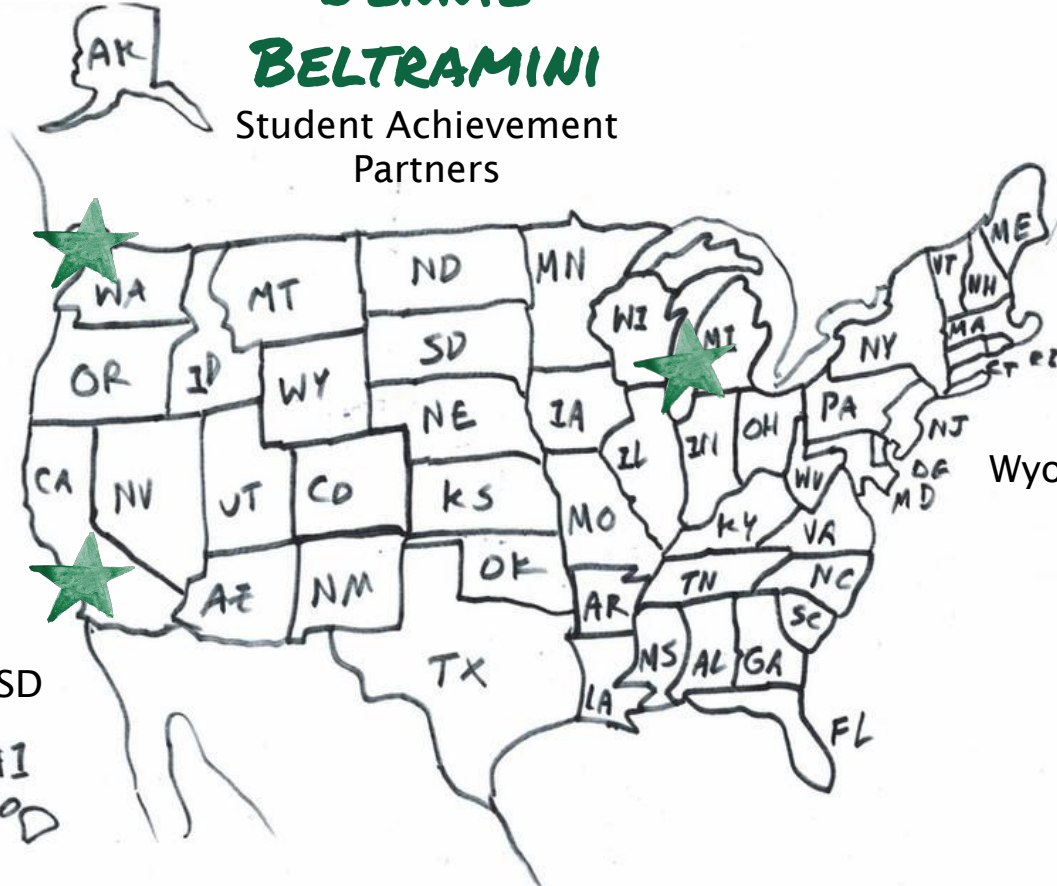
**NATHAN
JOHNSON**

Wyoming Public Schools
Michigan



**KARINA
CALDERÓN**

Saddleback Valley USD
California

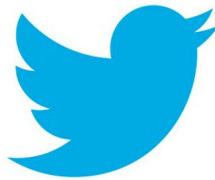


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Engage with Us!

Please feel free to tweet during and after the webinar using #coreadvocates

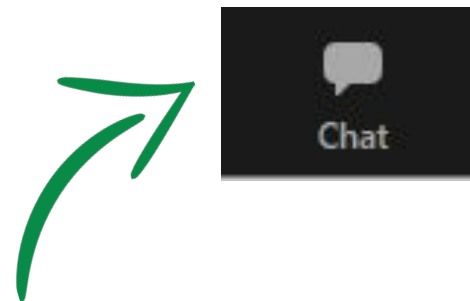
- @achievethecore
- @JennieBeltro
- @srta_kcalderon



After the webinar:

- Access to the recording and resources will be emailed to you.

During the webinar:




Ask questions, chat with us and other participants, share resources!

Need help? Private chat
Jasmine Costello

Professional Learning Certificate Will Be Provided

We value your feedback!

At the end of the webinar you will be given a link to take a brief feedback survey. Those who complete the survey will be emailed a certificate for 1-hour of professional learning!



Webinar Professional Learning

The information collected by Student Achievement Partners is used to help us to better support educators and the students they serve. All information provided will be kept confidential. When used, it will be considered only in aggregate (without personally identifiable information), and not for purposes of evaluation.

Please complete all required questions to receive a certificate for your professional learning time.

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Social, Emotional, and Academic Development in Math Classrooms

WEBINAR 1

Introducing SEAD themes and connections for equitable math instruction

*Available on-demand.
One hour professional learning credit*

- Understand the need for SEAD in math
- Make connections between SEAD and equitable math practice
- Learn about new resources

WEBINAR 2

Planning to incorporate social and emotional learning into math lessons

*Available on-demand.
One hour professional learning credit*

- Understand the connection between the SMPs, SEL, and grade-level instruction
- Learn to use the SEAD planning template from Pathways to Equitable Math Instruction

COMMUNITY OF PRACTICE

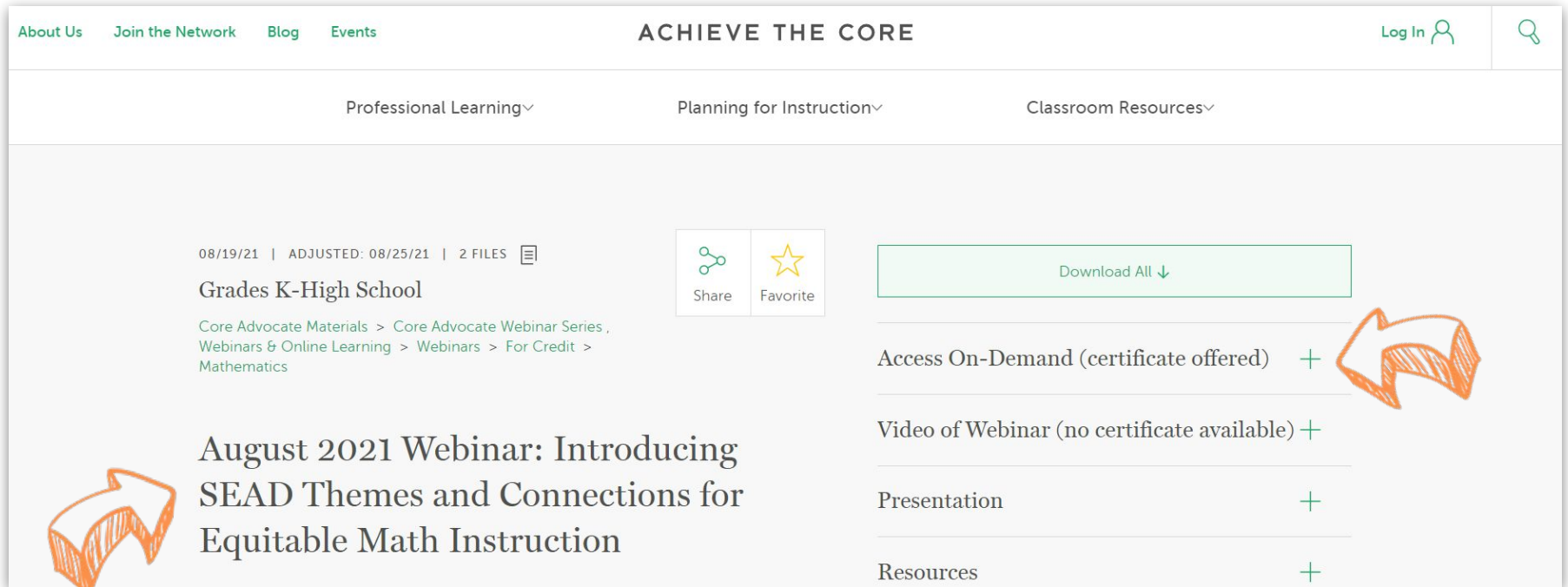
Collaborative, Participant-Driven Discussion and Planning

*Must have attended both webinars 1&2 prior to September 24 to join
4 hours professional learning credit*

- Share and reflect on best practices for implement SEAD
- Design and discuss lessons
- Opportunity to contribute lessons with compensation

Missed Part 1?

 Check it out!



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Professional Learning Planning for Instruction Classroom Resources

08/19/21 | ADJUSTED: 08/25/21 | 2 FILES

Grades K-High School

Core Advocate Materials > Core Advocate Webinar Series, Webinars & Online Learning > Webinars > For Credit > Mathematics

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Access On-Demand (certificate offered) +

Video of Webinar (no certificate available) +

Presentation +

Resources +

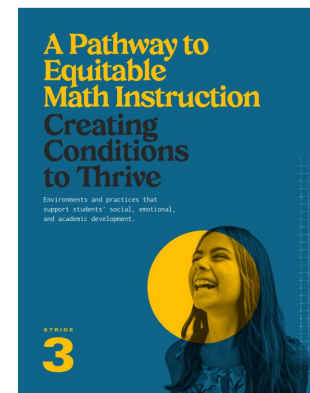
August 2021 Webinar: Introducing SEAD Themes and Connections for Equitable Math Instruction

You can watch it on-demand!
<https://bit.ly/SEADwebinarPart1>

Goals of the Webinar

- ✓ Understand how the Standards for Mathematical Practice (SMPs) intersect with the four SEL themes in Stride 3
- ✓ Learn about a planning process for math lessons that incorporate SEL themes
- ✓ Hear from educators about the lesson planning process and how they used it

Resource Sheet:
<https://bit.ly/SEADresources>
(page 2)



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Nathan Johnson
Instructional Coach
Wyoming Public Schools,
Oriole Park Elementary School



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Poll:

Did you attend or watch Part 1 of this webinar series on SEAD in the math classroom?
(Introducing SEAD themes and connections for equitable math instruction)

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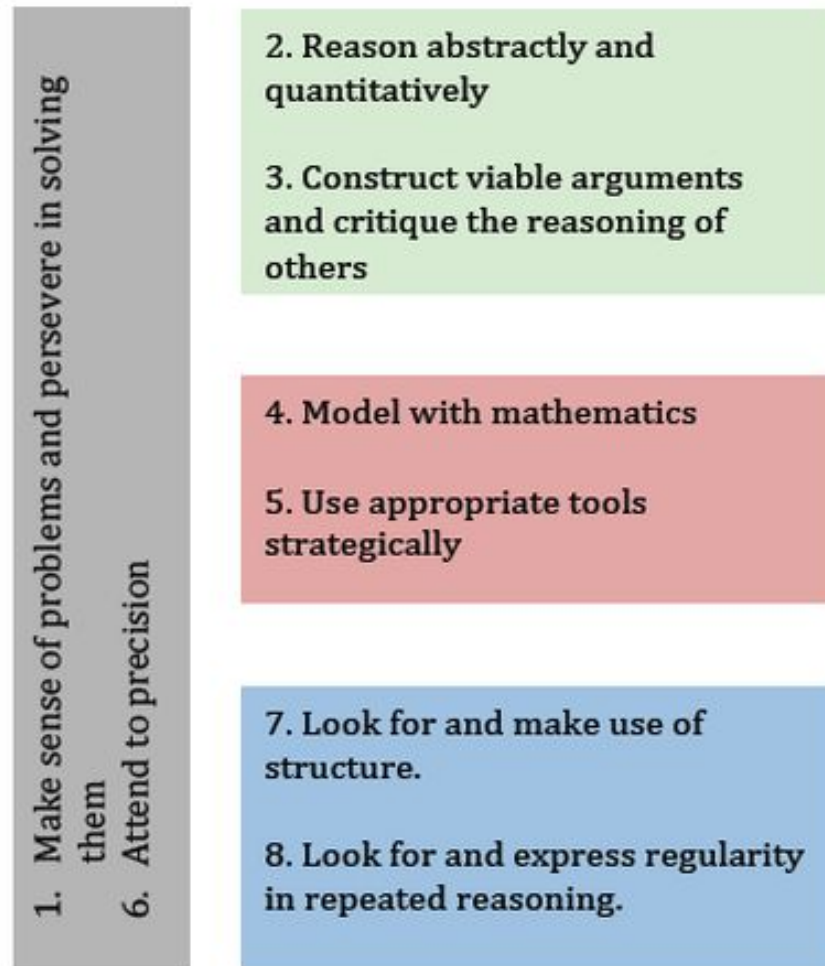
Section 1: How do the Standards for Mathematical Practice (SMPs) intersect with the four SEL themes in Stride 3?

The Standards for Mathematical Practices (SMPs)

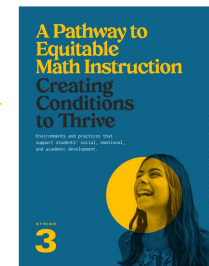
- Varieties of expertise
- Content standards are the **what**
- Practice standards are the **how**
- What students are doing



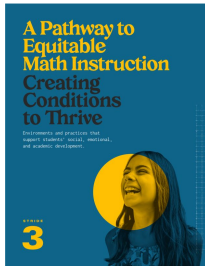
The Standards for Mathematical Practices



SEAD Themes



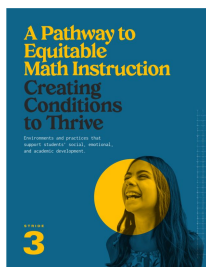
SMPs and SEAD Themes



| SUMMARY OF INTERSECTIONS OF SEAD THEMES WITH SMPs | | | | |
|---|----------|-----------|--------|-----------|
| SMP | IDENTITY | DISCOURSE | AGENCY | BELONGING |
| SMP 1 Make sense of problems and persevere in solving them. | ● | ● | ● | |
| SMP 2 Reason abstractly and quantitatively. | ● | ○ | | ○ |
| SMP 3 Construct viable arguments and critique the reasoning of others. | ● | ● | ● | ○ |
| SMP 4 Model with mathematics. | ● | | ● | |
| SMP 5 Use appropriate tools strategically. | ● | | | |
| SMP 6 Attend to precision. | ● | ● | | |
| SMP 7 Look for and make use of structure. | ● | | | |
| SMP 8 Look for and express regularity in repeated reasoning. | ○ | | | |

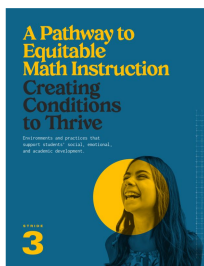
Routines That can Strengthen SEAD Themes.

Pg. 16



| SUGGESTED ACTIONS + STRATEGIES | | |
|--|---|--|
| SUMMARY TABLE | | |
| PRIORITY INSTRUCTIONAL CONTENT IN ELA/LITERACY AND MATHEMATICS COUNCIL OF GREAT SCHOOLS | | |
| SEAD | SMP | STRATEGY |
| Identity Belonging | SMP 2 Reason abstractly and quantitatively. | Build a safe community where mathematical discourse supports active listening, promotes diverse perspectives and insights, and allows students to consider others' reasoning to advance their own mathematical understanding. For example, utilize a "which one doesn't belong?" activity for groups of students to discuss and analyze correspondences between graphs, tables, and equations that represent a relationship between dependent and independent variables. |
| Agency | SMP 2 Reason abstractly and quantitatively. | Bring in students' existing funds of knowledge (culture, contexts, language, and experiences), such as during the study of ratios and rates, when students need to make sense of quantities and relationships in problem situations; they may bring in their understanding of measurement units to do measurement conversions and their real-life interactions with percents to solve percent problems. |
| Discourse | SMP 3 Construct viable arguments and critique the reasoning of others. | Position students as mathematically competent by encouraging them to construct mathematical arguments and engage in the reasoning of others, such as when they are using the properties of operations to generate equivalent expressions or working collaboratively to develop the formula for the area of a triangle through analyzing a variety of parallelograms and making an argument to generalize the relationship. |
| Agency | SMP 4 Model with mathematics. | Bring in students' funds of knowledge by ensuring materials and problems have a connection with learners, while also providing opportunities to learn about the broader world, such as when solving rich tasks involving geometric measurement that have a significant modeling component. |
| Identity | SMP 1 Make sense of problems and persevere in solving them. | Communicate that students' thinking is valued to build trust and rapport by asking questions that elicit students' thinking, such as when students are analyzing proportional relationships. |
| Agency Discourse | SMP 3 Construct viable arguments and critique the reasoning of others. | Position students as competent and elevate their status by valuing different contributions students make when they share representations and make connections between these representations (for example, tables, graphs, equations, and verbal descriptions of proportional relationships). |
| Agency Discourse | SMP 3 Construct viable arguments and critique the reasoning of others. | Promote student engagement and identity by embedding systems and routines such as "stronger and clearer each time," or other routines that allow students to engage in productive struggle and take ownership in their progress and growth toward intended learning outcomes. |
| Agency Discourse | SMP 4 Model with mathematics. | Enhance students' mathematical agency by including regular collaborative opportunities for students to work together with others as a team on modeling tasks that pro- |

Routines That can Strengthen SEAD Themes.



SUGGESTED ACTIONS + STRATEGIES (continued)

FOSTERING MATH PRACTICES GRACE KELEMANIK AND AMY LUCENTA

| SEAD | SMP | STRATEGY |
|--------------------|---|--|
| Identity Discourse | SMP 7 Look for and make use of structure. | Contemplate then Calculate Capturing Quantities is an instructional routine designed to focus students' attention on important quantities and relationships in problem situations. The goal of the routine is to develop students' ability to reason abstractly and quantitatively, math practice 2. |
| Identity Discourse | SMP 2 Reason abstractly and quantitatively. | Capturing Quantities is an instructional routine designed to focus students' attention on important quantities and relationships in problem situations. The goal of the routine is to develop students' ability to reason abstractly and quantitatively. |
| Identity Discourse | SMP 7 Look for and make use of structure. | Connecting Representations is an instructional routine that positions students to think structurally as they connect two representations by articulating the underlying mathematics. An essential goal of this routine is expanding students' repertoire of structural noticings. |
| Identity Discourse | SMP 8 Look for and express regularity in repeated reasoning. | Recognizing Repetition is an instructional routine that supports the difficult road to generalizing problem situations. Students enlist multiple modalities while they attend to the repetition in their counting, calculating, and constructing processes. In doing so, they leverage their repeated reasoning to make abstract generalizations. |
| Discourse | SMP 1 Make sense of problems and persevere in solving them. | The 3 Reads instructional routine is designed to develop students' ability to make sense of problems by deconstructing the process of reading mathematical situations. Over time, students will internalize this process, thereby creating a heuristic for reading and making sense of mathematical story problems. |
| Agency Discourse | SMP 3 Construct viable arguments and critique the reasoning of others. | Decide and Defend is an instructional routine in which students make sense of another's line of mathematical reasoning, decide if they agree with that reasoning, then draft an argument defending their decision. |

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Karina Calderón
5th Grade Teacher
Saddleback Valley USD,
California



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Section 2: What is a planning process for math lessons that incorporate the SEL themes?

SEAD Lesson Planning Template

1. IDENTIFY THE PRIORITY MATH STANDARD

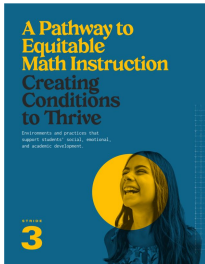
2. IDENTIFY THE SEAD THEME

Find SEAD Theme Guidebooks included in Stride 3 toolkit.

- IDENTITY
- DISCOURSE
- AGENCY
- BELONGING

3. IDENTIFY THE SMP(S) TO SUPPORT THE SEAD THEME

- SMP 1:** Make sense of problems and persevere in solving them.
- SMP 2:** Reason abstractly and quantitatively.
- SMP 3:** Construct viable arguments and critique the reasoning of others.
- SMP 4:** Model with mathematics.
- SMP 5:** Use appropriate tools strategically.
- SMP 6:** Attend to precision.
- SMP 7:** Look for and make use of structure.
- SMP 8:** Look for and express regularity in repeated reasoning.



2020-2021

June 2020

PRIORITY
INSTRUCTIONAL
CONTENT IN
ELA/LITERACY AND
MATHEMATICS

STUDENT
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| SUMMARY OF INTERSECTIONS OF SEAD THEMES WITH SMPs | | | | |
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| SMP 3 Construct viable arguments and critique the reasoning of others. | ● | ● | ● | ○ |
| SMP 4 Model with mathematics. | ● | | ● | |
| SMP 5 Use appropriate tools strategically. | ● | | | |
| SMP 6 Attend to precision. | ● | ● | | |
| SMP 7 Look for and make use of structure. | ● | | | |
| SMP 8 Look for and express regularity in repeated reasoning. | ○ | | | |

Create / Implement / Reflect on SEAD Strategy

Teachers can choose two ways of using the SEAD Theme Guidebooks:

- **Use the template as a lesson planning process**
 - Embed SEAD strategy to existing lesson plans
 - Review sample lessons
 - Consider teacher and student actions prior to the lesson
- **Use the template as a reflection process**
 - Reflect on evidence of the SEAD theme
 - Reflect on students' access to the math content

Identifying student and teacher actions

- Lesson planning process
 - write out the desired teacher and student actions
- Reflection process
 - write out the teacher and student actions that occurred in the lesson

Examples of Strategies:

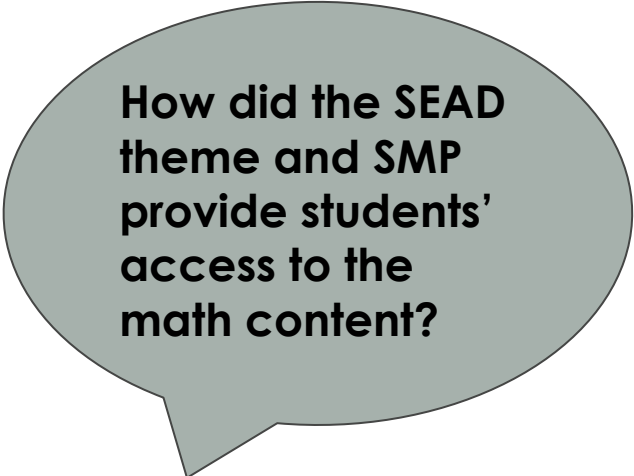
- content accessible
- support communication
- promoting the SEAD theme



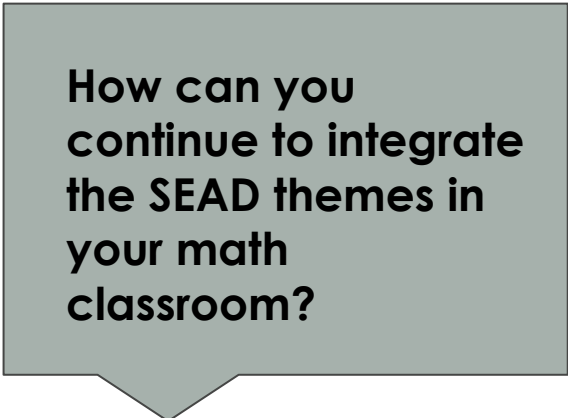
Summary of practices/ best practices / reflection

Using the SEAD Theme Guidebooks, teachers may want to:

- Write out summary of practice
- Identify best practices
- provide a reflection



How did the SEAD theme and SMP provide students' access to the math content?



How can you continue to integrate the SEAD themes in your math classroom?

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Question: Which part of the lesson planning template do you find most helpful?

Share your thoughts in the Zoom chat!

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Section 3: How did we use the lesson planning process and how did it go?

SEAD lesson in a 4th grade classroom

SEAD theme: Agency, Discourse

SMP1: Make sense of problems and persevere in solving them

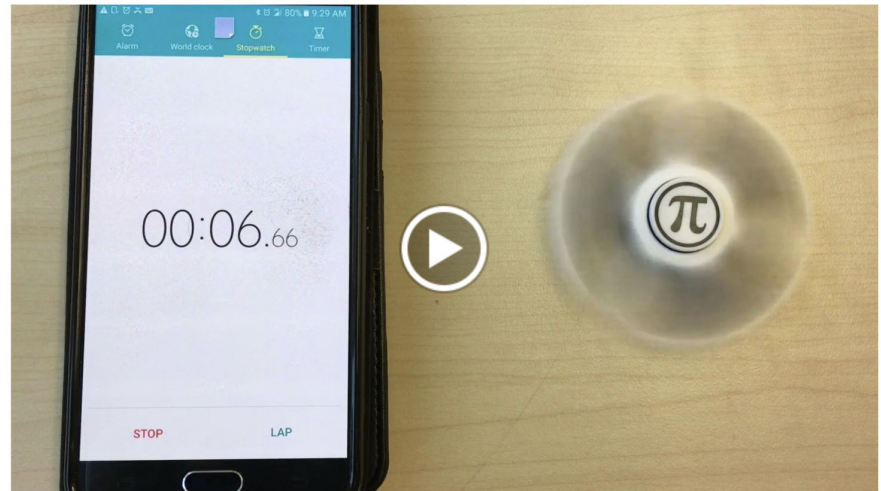
SMP3: Construct viable arguments and critique the reasoning of others

Learning Target

How can I **work together** to find a **solution** to a problem?

Success Criteria

I **worked together** with my classmates to **make sense** of a problem and **persevere** in solving it.



Reflection on the SEAD lesson in a 4th grade classroom

- Plan opportunities for students to interact with one another
- Routines and practice for dialogue and discourse will help!
- I needed something to hook them.
- I planned focusing on the “how” of the lesson before the “what.”
- Having guiding questions prepared beforehand helped when conversations stalled.

SEAD lesson in a 5th grade classroom

SEAD theme: Discourse

SMP3: Construct viable arguments and critique the reasoning of others

Five brothers are going to take turns watching their family's new puppy.



Five brothers are going to take turns watching their family's new puppy. Each brother will watch the puppy for a part of the day.

If they all watch him for an equal length of time, how much time will each brother spend watching the puppy?



Five brothers are going to take turns watching their family's new puppy. Each brother will watch the puppy for part of the day.



a. Five brothers are going to take turns watching their family's new puppy. How much time will each brother spend watching the puppy in a single day if they all watch him for an equal length of time? Write your answer

- i. Using only hours,
- ii. Using a whole number of hours and a whole number of minutes, and
- iii. Using only minutes.


Task adopted from [Illustrative Math](#)

SEAD lesson in a 5th grade classroom

SEAD theme: Discourse

SMP3: Construct viable arguments and critique the reasoning of others

Construct viable arguments and critique the reasoning of others. Mathematical Practice 3



I can make logical arguments and respond to the mathematical thinking of others.

I can **make and present arguments** by...

- using objects, drawings, diagrams and actions
- using examples and non-examples
- relating to contexts

I can **analyze the reasoning of others** by...

- listening
- asking and answering questions
- comparing strategies and arguments

Cla art licensed from the C/o Art Gallery on DiscourseSchool.com

Jordan School District 2012. Grades 4-5

SEAD lesson in a 5th grade classroom

Planned teacher and student actions

Teacher actions:

- Prompts students to participate in variation of 3 read strategy
- Asks guiding questions when launching tasks
- Monitors students working, asks clarifying questions, supports students as needed
- Selects students' strategies to share with the whole class

Student actions:

- sense making
- comparing and connecting strategies
- sharing their thinking and advancing it with the ideas of peers



SEAD lesson in a 5th grade classroom

Lesson outcome and reflection

each brother

started the same

whole = 24 hours

| | 1 | 2 | 3 | 4 | 5 |
|---------|--------|--------|--------|--------|--------|
| 4 hours | 4 hrs | 4hrs | 4hrs | 4hrs | 4hrs |
| 30min | 30min | 30min | 30min | 30min | 30min |
| 10 min | 10 min | 10 min | 10 min | 10 min | 10 min |
| 8 min | 8 min | 8 min | 8 min | 8 min | 8 min |

1 hour

extra hours split in fifths for each brother

Each brother will watch the puppy for $4 \frac{4}{5}$ hours.

Each brother will watch the puppy for 4 hours and 48 minutes.

different response BUT maybe the same

$\frac{1}{5}$ of an hr = $5 \overline{) 12}$

| | | |
|------|--------|-------|
| 12 | | |
| - 50 | (5x10) | |
| 10 | | (5x2) |
| - 10 | | |
| 0 | | |

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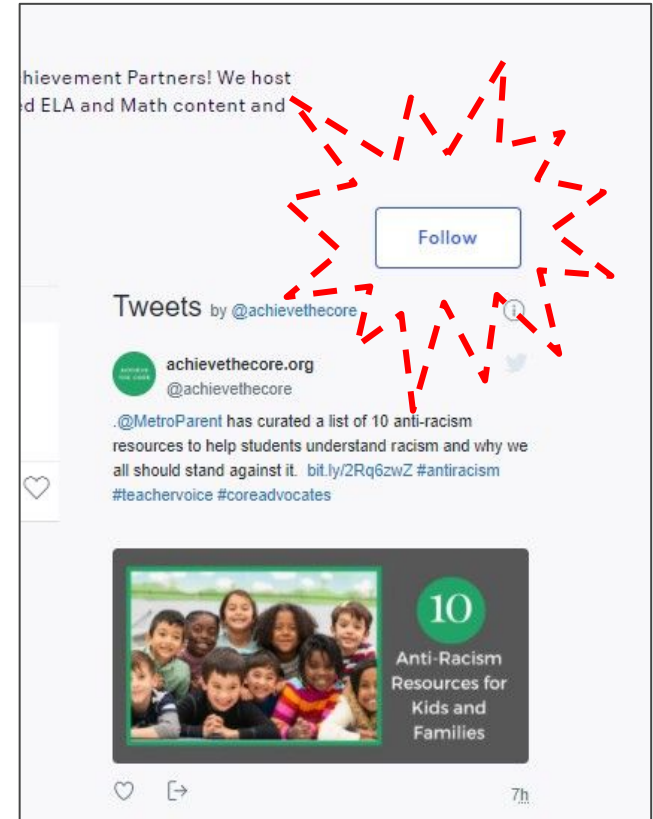
Questions for Our Guests?

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Upcoming Events!

All events take place at 7 p.m. ET.

Coffee & Conversation: Decolonizing Instruction with Maribel Gonzalez (@decolonizeliteracy)
Wednesday, September 22

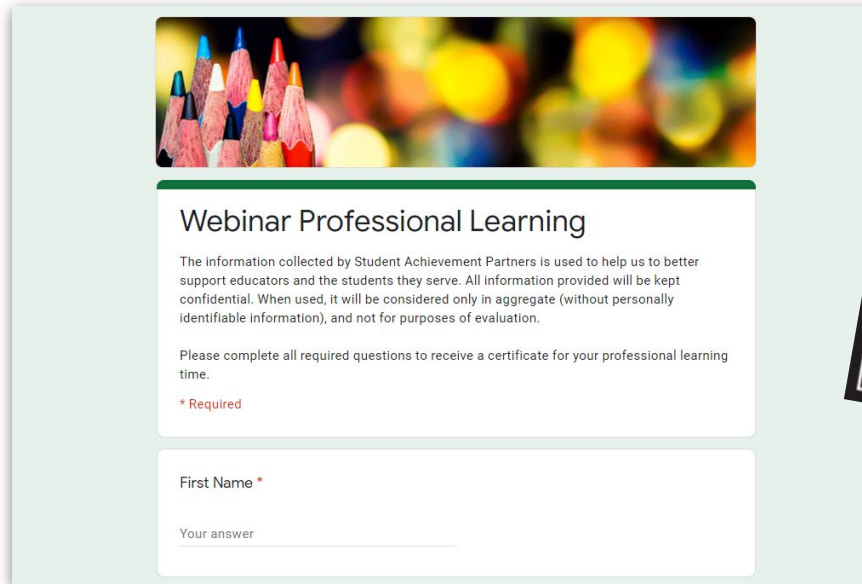


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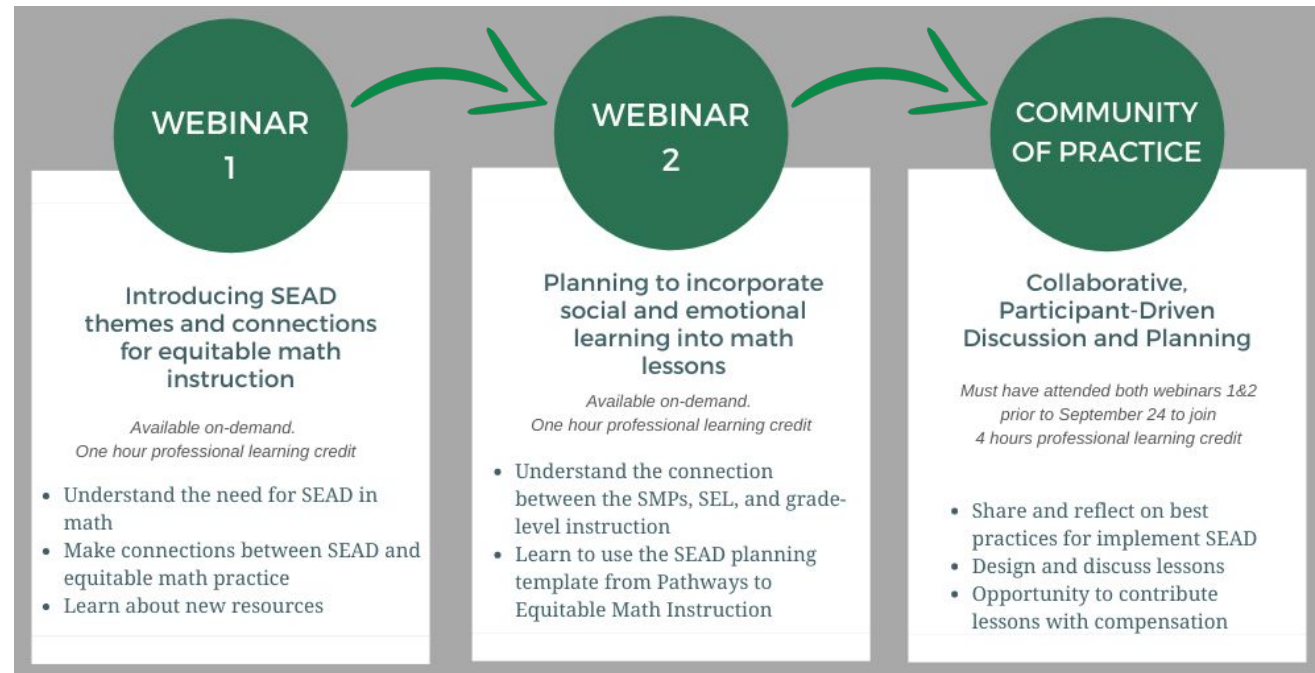
<https://bit.ly/2ULEyW0>

Join our Community of Practice!

| | | |
|------------------------------|-------|-------|
| Tuesdays 7:00 - 8:15 p.m. ET | | |
| Oct 5 | Nov 9 | Dec 7 |

Ongoing collaborative space for grade-alike educators to share and reflect on strategies and best practices for implementing SEAD into their math classrooms!

Watch both webinars live or asynchronously by Sept 24 to be invited to join the Community of Practice!

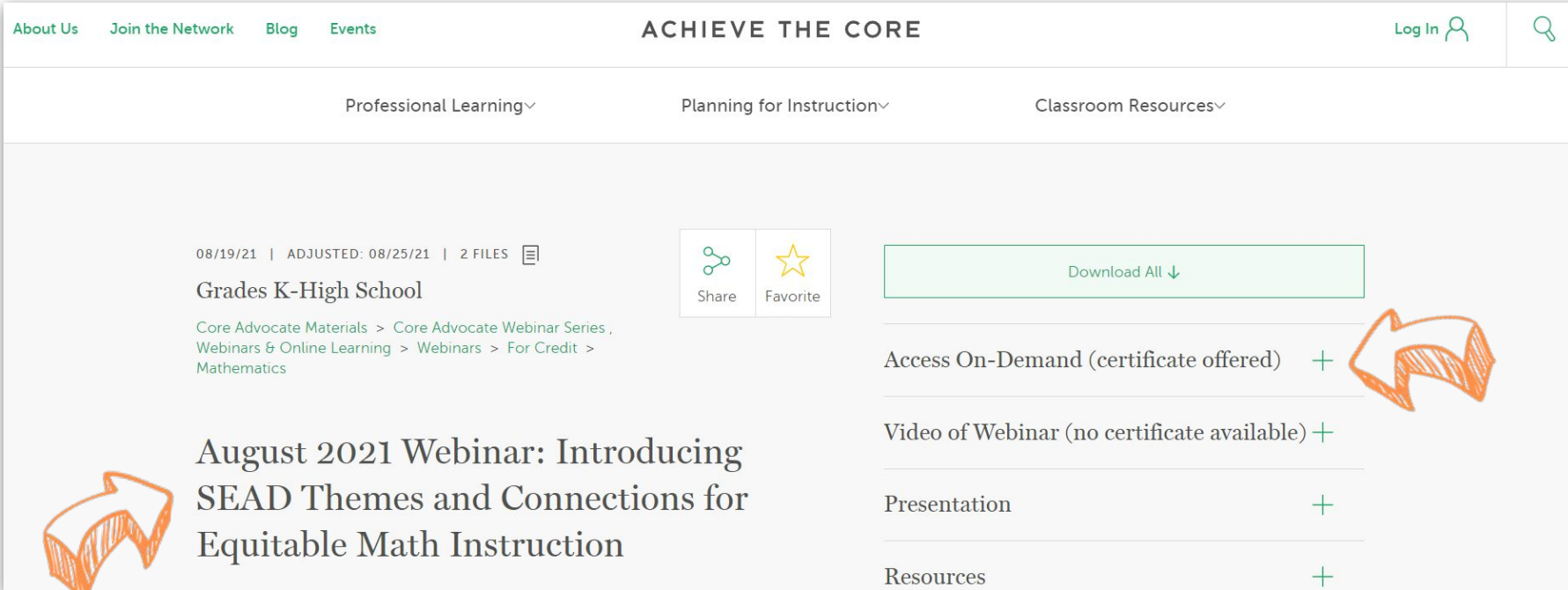


<https://bit.ly/3j8GBq5>



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Thank You!