Grounding in Standards, Planting SEAD (Social, Emotional, and Academic Development) in Mathematics

Participant Workbook

Regional Educational Laboratory Appalachia
Kentucky Department of Education

July 2022

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Contents

Background and Introduction

This workbook accompanies the materials for the workshop "Grounding in Standards, Planting SEAD (Social, Emotional, and Academic Development) in Mathematics," hosted by the Kentucky Department of Education (KDE), July 12–13, 2022, in Frankfort, Kentucky.

Workshop participants

K–12 mathematics educators and instructional leaders from Kentucky public schools.

Workshop goals

The goals of the workshop are to:

- Facilitate deeper learning around high-quality instruction aligned to the Kentucky Academic Standards (KAS) for Mathematics.
- Build educator understanding of the importance and role of social, emotional, and academic development (SEAD) in effective and equity-focused mathematics instruction.
- Expand awareness of resources that support SEAD integration.
- Strengthen capacity for planning instruction that aligns with the content and practices within the KAS for Mathematics.

Day 1 Agenda

July 12, 2022, 9:00 a.m. – 4:00 p.m. EDT

Time	Topic and Facilitator
9:00 a.m.	**Welcome and introductions** *Erin Chavez, academic program consultant, Kentucky Department of Education (KDE)* *Laura Kassner, partnership lead, REL Appalachia (REL AP), SRI International (SRI)*
9:20 a.m.	**Grounding in the Kentucky Academic Standards (KAS) for Mathematics — Part 1: Breaking down a standard** *Erin Chavez, academic program consultant, KDE* *Maggie Doyle, academic program consultant, KDE*
10:20 a.m.	**Break**
10:55 a.m.	**Grounding in the KAS for Mathematics — Part 2: Assignment review protocol** *Erin Chavez, academic program consultant, KDE* *Maggie Doyle, academic program consultant, KDE*
11:40 a.m.	**Lunch**
12:40 p.m.	**Planting SEAD in the KAS for Mathematics — Part 1: Research and reflection** *Kerry Friedman, senior education researcher, REL AP, SRI*
1:30 p.m.	**Planting SEAD in the KAS for Mathematics — Part 2: Experiencing SEAD** *Laura Kassner, partnership lead, REL AP, SRI*
2:00 p.m.	**Break**
2:15 p.m.	**Planting SEAD in the KAS for Mathematics — Part 3: Key components and strategies** *Eliese Rulifson, research associate, REL AP, SRI*
3:45 p.m.	**Wrap-up** *Laura Kassner, partnership lead, REL AP, SRI*

CASEL Competency Star Partners

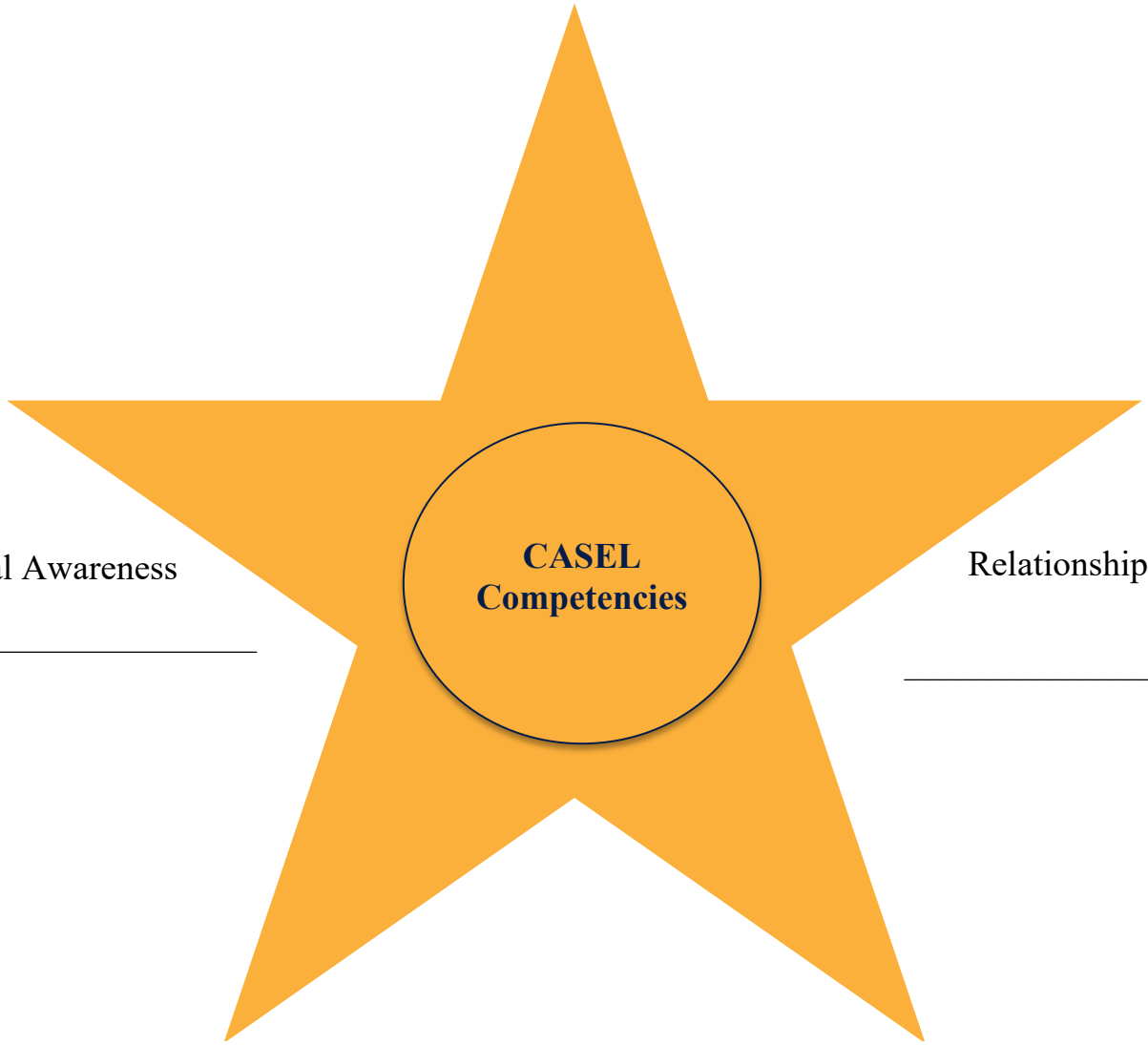
Welcome!

Throughout this workshop, you will pair up with several colleagues to connect, learn, and work together. To form partners efficiently, we will use the star graphic on the following page. When directed, walk around the room with the star graphic and pen and introduce yourself to five different people. If you both have a blank space next to the same competency (e.g. self-awareness), write each other's name on that line, effectively making an appointment with each other. Then move on to the next person until all five points on your star are filled with a partner's name. Later, the facilitator will instruct you to connect with your SEAD competency partner. For example, the facilitator will say, "find your self-awareness partner" and you will meet with the partner whose name is on that line. This activity is adapted from the Clock Buddies structure.

Find a different person to be your partner for each CASEL competency. Write their name on the corresponding line and look forward to a great conversation with them at least during the workshop!

Self-Awareness

_____



Social Awareness

_____

Relationship Skills

_____

Self-Management

_____

Responsible Decisionmaking

_____

Establishing Group Norms

Feel free to capture your thoughts on the group norms activity here.

Breaking Down a Standard

For this exercise, we will use the Breaking Down a Mathematics Standard resource on the Kentucky Department of Education (KDE) website.

Feel free to take notes here.

Assignment Review Protocol

For this exercise, we will use the Assignment Review Protocol from The New Teacher Project (TNTP), housed on the KDE website.

Feel free to take notes here.

Planting SEAD in the Kentucky Standards for Mathematics: Research and Reflection

What is social-emotional learning?

Social-Emotional Learning (SEL) is "the process through which all young people and adults acquire and apply the knowledge, skills, and attitudes to:

- Develop healthy identities
- Manage emotions and achieve personal and collective goals
- Feel and show empathy for others
- Establish and maintain supportive relationships
- Make responsible and caring decisions

(Collaborative for Academic, Social, and Emotional Learning, 2022)

How does SEL affect student outcomes?

Social-emotional learning can lead to:

- Fewer behavioral problems
- Lower levels of emotional distress
- Improved academic outcomes

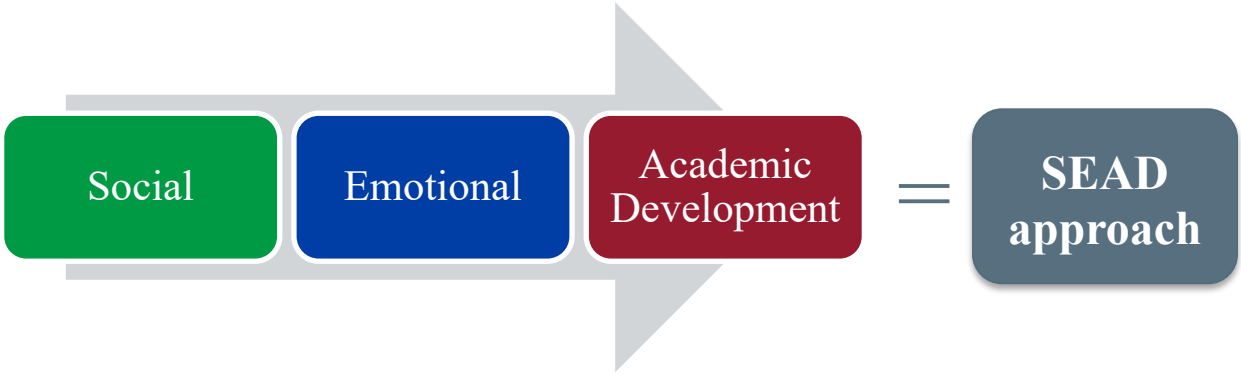
(Durlak et al., 2011)

Reflect

Take a moment to think about the skills that help you learn and grow every day as an adult. What are they?

Integrating **s**ocial, **e**motional, and **a**cademic **d**evelopment (SEAD)

Academic learning requires the integration of these skills:



Turn and talk

- What instructional strategies did you find effective in your classrooms this past year?

- In what ways do these strategies contribute to students' social, emotional, and/or academic development?

How to integrate SEAD

1. Create learning environments that are physically and emotionally safe.
2. Intentionally teach social, emotional, and cognitive skills.
3. Have students practice these skills as they learn academic content and in their interactions.

(Aspen Institute, 2019; Darling-Hammond et al., 2020; Jones et al., 2021)

Role of SEAD in educational equity

- SEAD benefits all students by supporting students' ability to cope with stress and trauma.
- While students from all backgrounds may experience stress and trauma, research indicates that students from low-income families and students of color are more likely to have repeated exposures to stress and traumatic experiences, due to systemic inequities and injustice.
- While SEAD is well positioned to support educational equity, educators must be intentional about teaching it in culturally responsive ways that counter privilege, prejudice, and structural inequality.

(Aspen Institute, 2019; Gregory & Fergus, 2017; Jagers et al., 2018; Jones et al., 2021)

Stop and jot

- What personal identities do I bring to my classroom?

- How might your identity influence how you support students' SEAD?

Principles of equitable SEAD

1. Ensure safe and inclusive learning environments that are respectful and affirming of diverse identities.
2. Recognize and incorporate student cultural values, practices, and assets.
3. Foster positive identity development.
4. Promote student agency and voice.
5. Explicitly acknowledge issues of bias, power, and inequality, and work to address them.

(Jones et al., 2017)

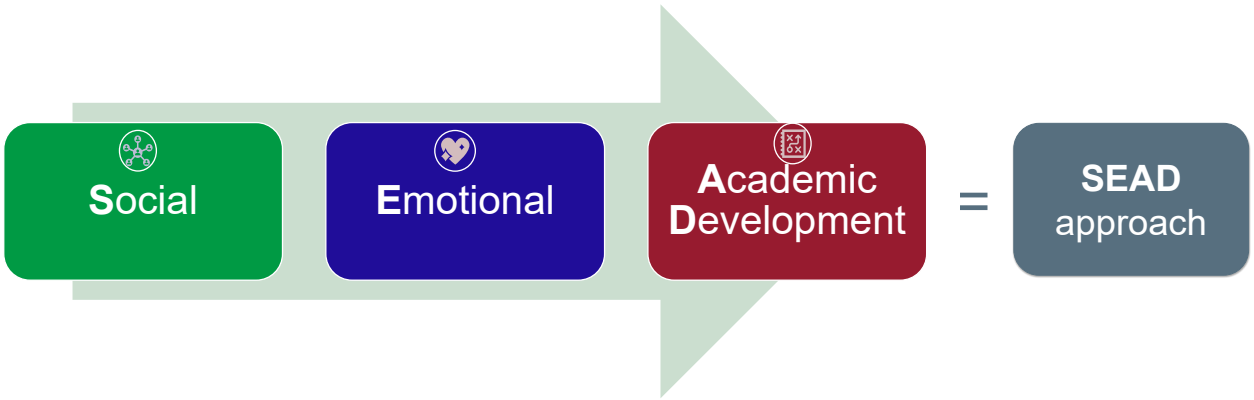
Pair and share

- In what ways have you embodied the principles of equitable SEAD in your classroom?

- How can you keep the principles of equitable SEAD at the forefront in your instructional planning and classroom practices?

Planting SEAD in the Kentucky Standards for Mathematics: Experience SEAD

The facilitator will model a mathematics mini-lesson that incorporates a SEAD approach. During the mini-lesson, look for evidence of how social/interpersonal skills, emotional skills, academic/cognitive skills are elicited in the lesson, and jot your notes down in the squares under each component. At the end of the lesson, we'll discuss what you saw and together we'll try to describe the SEAD approach in the final box.



Planting SEAD in the Kentucky Standards for Mathematics: Key Components and Strategies

For this exercise, we will draw from resources related to Integrating SEAD within the KAS for Mathematics and the Collaborative for Academic, Social, and Emotional Learning (CASEL)'s SEL Framework.

The CASEL framework and competencies

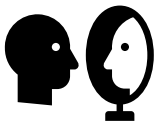
Protocol: Unpacking the CASEL Framework

Competency: Self-awareness

Draw an image that represents what this competency means to you:

Definition: Self-awareness is the ability to understand one's own emotions, thoughts, and values and how they influence behavior across contexts. Examples of how teachers can promote and students can demonstrate self-awareness include:

- Integrating personal and social identities
- Identifying personal, cultural, and linguistic assets
- Identifying one's emotions
- Demonstrating honesty and integrity
- Linking feelings, values, and thoughts
- Examining prejudices and biases
- Experiencing self-efficacy
- Having a growth mindset
- Developing interests and a sense of purpose



Self-reflect: What does self-awareness mean to me?

Guiding Questions:

- What does the competency mean to me?
- How do my dispositions and experiences with this competency impact how I support my students?
- What are my strengths and assets in relation to this competency?
- What am I missing?

Record your reflections here:

Which of the example practices listed in the definition above are already part of my practice?

Which practices challenge me to think differently about self-awareness?

Teacher hat: How is this already embedded in my planning? What do I want to try?

Directions:

Read the two sections on the following page: *Considerations when designing mathematics instruction that fosters self-awareness* and *Questions to foster self-awareness in students*, taken from the *Integrating SEAD within the KAS for Mathematics Grade Level Library*. We selected a grade 4 example for everyone to work through together on this first competency. You will work with the grade level materials of choice for subsequent SEAD competencies.

As you read:

- Highlight in Green (or use a *checkmark*) to indicate design considerations and questions you're already using and can **build** on next year.
- Highlight in Blue (or use an *asterisk*) to indicate a **new** practice you'd like to try.

Taken from the Integrating SEAD within the KAS for Mathematics Grade Level Library.

Grade 4

*Considerations when designing mathematics instruction that fosters **self-awareness:***

- **Lead class activities that offer students the opportunity to share their perspectives and learn from the perspectives of others.** Attend to the ways in which students position one another as capable or not capable of doing mathematics and provide opportunities to elevate the voices of marginalized students, such as strategically sharing student work, student thinking and solutions (MP.3). Use collaborative structures to ensure learning engagement and equity of voice. Communicate that students' thinking is valued to build trust and rapport by asking questions that elicit students' thinking. Position students as mathematically competent by encouraging various entry points and elevating diverse ways students see and use structure in problems. For example, in work with subtraction of multi-digit numbers, begin with one regrouping step using evidence of student learning to determine next steps (exit tickets, assigned problem) (MP.7).
- **Provide age-appropriate authentic feedback and ask open-ended questions that invite students to engage in deeper reflection about their own strengths.** Posing tasks that require students to explain, argue, or critique. In general, students determine their approach based on the numbers in the problem seeking an efficient strategy. In creating such models and recording them as equations, students notice repetitive actions in computation and generalize to solve other similar problems (MP.8). Students explain how and why their selected models and/or algorithms work (MP.3). For example, in Numbers and Operations in Base Ten, Cluster: Use place value understanding and properties of operations to perform multi-digit arithmetic, in the problem: 345,402 – 67,087 = ? a student might choose to stack it and subtract using an algorithm. The same student seeing 56,708 – 9,998 = __, might notice how close the subtrahend (second value) is to 10,000 and instead subtract 10,000 and add 2 onto the answer (MP.2). For multiplication and division, students recognize the relationship between area and multiplication and take advantage of rectangular arrays to model multiplication problems (MP.4).
- **Promote a growth mindset by presenting culturally relevant tasks.** Bring in students' existing funds of knowledge (culture, contexts, language and experiences); students are more apt to engage with mathematics when they can make a connection to the world they live in. Consider ways to get to know students, such as asking them to list their favorite musicians, songs, sports, activities, games, food, etc., or by asking deeper questions about their culture, memories and family. Using resources like 3 Act Tasks provides students the opportunities to reason and take the first initial step to solve the problem in a real-world context.

*Questions to foster **self-awareness** in students:*

- What uses of mathematics can you find in current events?
- Can you explain that?
- Do you agree?
- What do you notice? What do you wonder?

Application: How does this look in my math instruction?

Use the KDE design considerations, questions, and your own experiences to brainstorm specific strategies you already use—or might try—to develop students' self-awareness. Connect these strategies to specific example practices (or add a practice of your own!)

Self-awareness example practices	Strategies to continue in math	Strategies to try in math
Integrating personal and social identities		
Identifying personal, cultural, and linguistic assets		
Identifying one's emotions		
Demonstrating honesty and integrity		
Linking feelings, values, and thoughts		
Examining prejudices and biases		
Experiencing self-efficacy		
Having a growth mindset		
Developing interests and a sense of purpose		
Other:		

Protocol: Unpacking the CASEL Framework

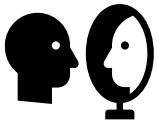
Competency: Self-management

Draw an image that represents what this competency means to you:

Definition: Self-management is the ability to manage one's own emotions, thoughts, and behaviors effectively in different situations and to achieve goals and aspirations. Examples of how teachers can promote and students can demonstrate self-management include:

- Managing one's emotions
- Identifying and using stress-management strategies
- Exhibiting self-discipline and self-motivation
- Setting personal and collective goals
- Using planning and organizational skills
- Showing the courage to take initiative
- Demonstrating personal and collective agency

Self-reflect: What does self-management mean to me?



Guiding Questions:

- What does the competency mean to me?
- How do my dispositions and experiences with this competency impact how I support my students?
- What are my strengths and assets in relation to this competency?
- What am I missing?

Record your reflections here:

Which of the example practices listed in the definition above are already part of my practice?

Which practices challenge me to think differently about self-management?

Teacher hat: How is this already embedded in my planning? What do I want to try?

Directions:

Visit the *Integrating SEAD within the KAS for Mathematics Grade Level Library*, select a grade level of interest to you. Download and open the document. Read through the two sections: *Considerations when designing mathematics instruction that fosters self-management* and *Questions to foster self-management in students* for your grade level of choice.

As you read:

- Highlight in Green (or use a *checkmark*) to indicate design considerations and questions you're already using and can **build** on next year.
- Highlight in Blue (or use an *asterisk*) to indicate a **new** practice you'd like to try.

Application: How does this look in my math instruction?

Use the KDE design considerations, questions, and your own experiences to brainstorm specific strategies you already use—or might try—to develop students' self-management. Connect these strategies to specific example practices (or add a practice of your own!)

Self-management example practices	Strategies to continue in math	Strategies to try in math
Managing one's emotions		
Identifying and using stress-management strategies		
Exhibiting self-discipline and self-motivation		
Setting personal and collective goals		
Using planning and organizational skills		
Showing the courage to take initiative		
Demonstrating personal and collective agency		
Other:		

Protocol: Unpacking the CASEL Framework

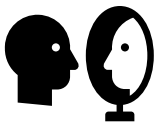
Competency: Social awareness

Draw an image that represents what this competency means to you:

Definition: Social awareness is the ability to understand the perspectives of and empathize with others, including those from diverse backgrounds, cultures, and contexts. Examples of how teachers can promote and students can demonstrate social-awareness include:

- Taking others' perspectives
- Recognizing strengths in others
- Demonstrating empathy and compassion
- Showing concern for the feelings of others
- Understanding and expressing gratitude
- Recognizing situational demands and opportunities
- Understanding the influences of organizations/systems of behavior

Self-reflect: What does social awareness mean to me?



Guiding Questions:

- What does the competency mean to me?
- How do my dispositions and experiences with this competency impact how I support my students?
- What are my strengths and assets in relation to this competency?
- What am I missing?

Record your reflections here:

Which of the example practices listed in the definition above are already part of my practice?

Which practices challenge me to think differently about social-awareness?

Teacher hat: How is this already embedded in my planning? What do I want to try?

Directions:

Visit the *Integrating SEAD within the KAS for Mathematics Grade Level Library*, select a grade level of interest to you. Download and open the document. Read through the two sections: *Considerations when designing mathematics instruction that fosters social awareness* and *Questions to foster social awareness in students* for your grade level of choice.

As you read:

- Highlight in Green (or use a *checkmark*) to indicate design considerations and questions you're already using and can **build** on next year.
- Highlight in Blue (or use an *asterisk*) to indicate a **new** practice you'd like to try.

Application: How does this look in my math instruction?

Use the KDE design considerations, questions, and your own experiences to brainstorm specific strategies you already use—or might try—to develop students' social awareness. Connect these strategies to specific example practices (or add a practice of your own!)

Social awareness example practices	Strategies to continue in math	Strategies to try in math
Taking others' perspectives		
Recognizing strengths in others		
Demonstrating empathy and compassion		
Showing concern for the feelings of others		
Understanding and expressing gratitude		
Recognizing situational demands and opportunities		
Understanding the influences of organizations/ systems of behavior		
Other:		

Protocol: Unpacking the CASEL Framework

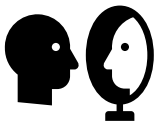
Competency: Relationship skills

Draw an image that represents what this competency means to you:

Definition: Relationship skills are the ability to establish and maintain healthy and supportive relationships and to effectively navigate settings with diverse individuals and groups. Examples of how teachers can promote and students can demonstrate relationship skills include:

- Communicating effectively
- Developing positive relationships
- Demonstrating cultural competency
- Practicing teamwork and collaborative problem solving
- Resisting negative social pressure
- Showing leadership in groups
- Seeking or offering support and help when needed
- Standing up for the rights of others

Self-reflect: What do relationship skills mean to me?



Guiding Questions:

- What does the competency mean to me?
- How do my dispositions and experiences with this competency impact how I support my students?
- What are my strengths and assets in relation to this competency?
- What am I missing?

Record your reflections here:

Which of the example practices listed in the definition above are already part of my practice?

Which practices challenge me to think differently about relationship skills?

Teacher hat: How is this already embedded in my planning? What do I want to try?

Directions:

Visit the *Integrating SEAD within the KAS for Mathematics Grade Level Library*, select a grade level of interest to you. Download and open the document. Read through the two sections: *Considerations when designing mathematics instruction that fosters relationship skills* and *Questions to foster relationship skills in students* for your grade level of choice.

As you read:

- Highlight in Green (or use a *checkmark*) to indicate design considerations and questions you're already using and can **build** on next year.
- Highlight in Blue (or use an *asterisk*) to indicate a **new** practice you'd like to try.

Application: How does this look in my math instruction?

Use the KDE design considerations, questions, and your own experiences to brainstorm specific strategies you already use—or might try—to develop students' relationship skills. Connect these strategies to specific example practices (or add a practice of your own!)

Relationship skills example practices	Strategies to continue in math	Strategies to try in math
Communicating effectively		
Developing positive relationships		
Demonstrating cultural competency		
Practicing teamwork and collaborative problem solving		
Resisting negative social pressure		
Showing leadership in groups		
Seeking or offering support and help when needed		
Standing up for the rights of others		
Other:		

Protocol: Unpacking the CASEL Framework

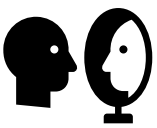
Competency: Responsible decisionmaking

Draw an image that represents what this competency means to you:

Definition: Responsible decisionmaking is the ability to make caring and constructive choices about personal behavior and social interactions across diverse settings. Examples of how teachers can promote and students can demonstrate decisionmaking include:

- Demonstrating curiosity and open-mindedness
- Identifying solutions for personal and social problems
- Learning to make a reasoned judgment after analyzing information, data, facts
- Anticipating and evaluating the consequences of one's actions
- Recognizing how critical thinking skills are useful for both inside and outside of school
- Reflecting on one's own role to promote personal, family, and community well-being
- Evaluating personal, interpersonal, community, and institutional impacts

Self-reflect: What does responsible decisionmaking mean to me?



Guiding Questions:

- What does the competency mean to me?
- How do my dispositions and experiences with this competency impact how I support my students?
- What are my strengths and assets in relation to this competency?
- What am I missing?

Record your reflections here:

Which of the example practices listed in the definition above are already part of my practice?

Which practices challenge me to think differently about responsible decisionmaking?

Teacher hat: How is this already embedded in my planning? What do I want to try?

Directions:

Visit the *Integrating SEAD within the KAS for Mathematics Grade Level Library*, select a grade level of interest to you. Download and open the document. Read through the two sections: *Considerations when designing mathematics instruction that fosters responsible decisionmaking* and *Questions to foster responsible decisionmaking in students* for your grade level of choice.

As you read:

- Highlight in Green (or use a *checkmark*) to indicate design considerations and questions you're already using and can **build** on next year.
- Highlight in Blue (or use an *asterisk*) to indicate a **new** practice you'd like to try.

Application: What does this look like in my math instruction?

Use the KDE design considerations, questions, and your own experiences to brainstorm specific strategies you already use—or might try—to develop students' responsible decisionmaking skills. Connect these strategies to specific example practices (or add a practice of your own!)

Responsible decisionmaking example practices	Strategies to continue in math	Strategies to try in math
Demonstrating curiosity and open-mindedness		
Identifying solutions for personal and social problems		
Learning to make a reasoned judgment after analyzing information, data, facts		
Anticipating and evaluating the consequences of one's actions		
Recognizing how critical thinking skills are useful for both inside and outside of school		
Reflecting on one's own role to promote personal, family, and community well-being		
Evaluating personal, interpersonal, community, and institutional impacts		
Other:		

Day 1 Wrap-Up: Reflecting on the Day

Please take a few minutes to reflect on what you learned today, using the prompts below, to help the facilitators prepare for tomorrow's session. You can either hand it in to the facilitator on your way out — with the understanding it will be returned to you tomorrow — OR just snap a photo of your responses and email it to your facilitator.

- What is resonating with you or making you anxious?

- What did you learn today, and how might it impact your practice?

- What are you already doing in the spirit of SEAD, and how can you build on those efforts?

- What questions are you hoping will be answered in tomorrow's session?

Day 2 Agenda

Day 2: July 13, 2022, 9:00 a.m. – 4:00 p.m. EDT

Time	Topic and Facilitator
9:00 a.m.	**Welcome** *Erin Chavez, academic program consultant, KDE*
9:20 a.m.	**Integrating SEAD and KAS for Mathematics roadmap** *Erin Chavez, academic program consultant, KDE* *Maggie Doyle, academic program consultant, KDE*
11:00 a.m.	**Break**
11:15 a.m.	**Co-designing SEAD in mathematics lessons — Part 1** *Laura Kassner, partnership lead, REL AP, SRI*
12:15 p.m.	**Lunch**
1:15 p.m.	**Co-designing SEAD in mathematics lessons — Part 2** *Laura Kassner, partnership lead, REL AP, SRI*
2:15 p.m.	**Break**
2:30 p.m.	**Supportive colleagues' review and feedback** *Kerry Friedman, senior education researcher, REL AP, SRI*
3:30 p.m.	**Wrap-up** *Laura Kassner, partnership lead, REL AP, SRI* *Maggie Doyle, academic program consultant, KDE*

Integrating SEAD and KAS for Mathematics Roadmap Tool

Please feel free to take notes here.

Co-designing SEAD in Mathematics Lessons

Please feel free to take notes here.

Supportive Colleagues' Review and Feedback

On your own, review a lesson from a near-peer and complete the feedback form. Then discuss your review with your partner and add any additional feedback or clarifications.

- I like…

- I wish…

- I wonder…

Wrap-up: Reflecting and Postcard Writing

On your tables you'll find blank postcards. Please address the postcard to yourself and write a note to your future self, using the questions below as prompts if you'd like, summarizing what you learned and how you'd like to put it into action next school year. We will collect these postcards today to learn more about what you're thinking and we will mail them back to you at the beginning of the 2022/23 school year.

- What **new or deeper learning** surfaced today as you began planning?

- **How might SEAD look** in your math class? Could be a moment, transition, a routine, activity, year-long theme. Think big or small.

- What are your **first few steps** toward implementing in the fall?

- With whom can you **partner** or collaborate?

Connect with REL Appalachia

Learn about our upcoming work and check out more of our resources: **https://ies.ed.gov/ncee/rel/region/appalachia**

Follow us on Twitter: **@REL_Appalachia**

Subscribe to our newsletter: **https://tinyurl.com/RELAPnews**

Send us an email: **RELAppalachia@sri.com**

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