What’s golden?
Introductions

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Agenda

• Introductions and Norms
• Morning Jumpstart: Don’t be a square
• Activity: Investigating the Bridges
• Lesson Reflection: Reflecting on SMCs and SMPs
• Lunch
• Launch after Lunch: How many children?
• Activity: S-pattern task
• Lesson Reflection: Reflecting on SMCs and SMPs
• Lesson Planning
• Daily Evaluation
Evolving Norms for this PD

• We will be ready for class and use our class time effectively.
• We will keep our focus on learning and use technology for personal reasons during breaks.
• We will be respectful of each other’s time and space and work efficiently.
• We will actively participate by (a) listening to each other, (b) giving others our attention, (c) not speaking when someone else is talking, and (d) regularly sharing our ideas in class.
• If we disagree with someone or are unclear, we will ask a question about his or her idea and describe why we disagree or are confused.
• We will ask questions when we do not understand something. We will comment on others’ ideas rather than the person.
Evolving Norms for this PD

- We will take advantage of opportunities to share ideas and gather feedback through presentations.
- We will encourage one another to share ideas.
- We will show our appreciation to one another for their ideas.
- If we disagree with someone or are unclear about their ideas related to mathematics content and pedagogy, we will ask a question about his or her idea and describe why we disagree or are confused.
- We will ask questions when we do not understand something about mathematics content and pedagogy.
- We will comment on others’ ideas about mathematics content and pedagogy rather than the person.
Evolving Norms for this PD

- We will always look for another approach to solve problems.
- We will use pictures, graphs, tables, symbols, numbers, manipulatives, and/or words to assist us while doing mathematics.
- We will persist with every problem and examine it from multiple perspectives.
- We will be mathematically precise whenever possible.
- We will explain and justify our ideas in a way that everyone can understand.
- We will engage in rough-draft talk and encourage others to do so as well.
Morning Jumpstart: Don’t Be a Square

This is a contest!
You will be working as a team with your partner. Each team will be given two dice of different colors. When rolled, one die represents the x-coordinate and one die represents the y-coordinate. The “point” rolled should be graphed on a coordinate plane. The first team to roll points such that lines running through points are perpendicular. Depending on time, other variations include: (two lines are parallel, three points are collinear)
Reflecting on SMCs and SMPs

• Share across your table with different SMPs and SMCs addressed by today’s activities.
  - Be purposeful indicating what specific behaviors or habits led you to conclude that you engaged in a specific SMP.
  - Similarly, what did the instructor(s) do to encourage/foster/facilitate that SMP?
  - In what ways could we UDL this lesson?
    • UDL = Universal Design for Learning. We will explore this more deeply later today.
Activity

Investigating the bridges (Nolan, Dixon, Roy, & Andreasen, 2016)
Reflecting on SMCs and SMPs

• Share across your table with different SMPs and SMCs addressed by today’s activities.
  – Be purposeful indicating what specific behaviors or habits led you to conclude that you engaged in a specific SMP.
  – Similarly, what did the instructor(s) do to encourage/foster/facilitate that SMP?
Lesson Reflections

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LUNCH
“I hear some youngsters in the backyard,” said Jones, a graduate student in mathematics. “Are they all yours?” “Heavens, no,” explained Professor Smith, the eminent number theorist. “My children are playing with friends from three other families in the neighborhood, although our family happens to be the largest. The browns have a smaller number of children, the Greens have a still smaller number, and the Blacks the smallest of all.” “How many children are there altogether?” asked Jones. “Let me put it this way,” Said Smith. “There are fewer than 18 children, and the product of the numbers in the four families happens to be my house number which you saw when you arrived.” Jones took a notebook and pencil from his pocket and started scribbling. A moment later he looked up and said, “I need more information. Is there more than one child in the Black family?” As soon as Smith replied, Jones smiled and correctly stated the number of children in each family. Knowing the house number and whether the Blacks had more than one child, Jones found the problem trivial. It is a remarkable fact, however, that the number of children in each family can be determined solely on the basis of the information given above.
Reflecting on SMCs and SMPs

• Share across your table with different SMPs and SMCs addressed by today’s activities.
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  – Similarly, what did the instructor(s) do to encourage/foster/facilitate that SMP?
Activity – S-pattern task
Reflecting on SMCs and SMPs

• Share across your table with different SMPs and SMCs addressed by today’s activities.
  – Be purposeful indicating what specific behaviors or habits led you to conclude that you engaged in a specific SMP.
  – Similarly, what did the instructor(s) do to encourage/foster/facilitate that SMP?
# Lesson Reflections

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Lessons

• You will design **one Expression and Equations (EE)** lesson to implement next academic year. Work on this lesson will be done in grade-level teams.
  – Special education teachers are encouraged to work with those they tend to collaborate with most often, students they tend to see more frequently, or content that seems most unclear. You are still expected to author one EE lesson.
  – Each teacher is responsible for one lesson; however, the team’s lessons should be organized as part of a series of lessons that the grade-level teams could pick up and use in its entirety.
Lessons

• Lessons may use tasks from online/NCTM/books but they must be different in some way.
• TTLP questions must be clearly addressed. Copy and paste the question from the TTLP into your lesson so the reader knows its focus.
• You must address at least one bullet from each section within Parts 1 and 2.
• You must address two bullets from Part 3.
• You may use the provided BGSU lesson plan template or another lesson plan template as a way to frame your lesson.
Lessons

• Technology and other resources are encouraged.
• SMPs and SMCs must be indicated in the lesson.
• Assessment of some kind (questions, worksheet, brief quiz, etc.) must be provided.
• As a group, you must have a grade-level academic language support document. This should include words, definitions, examples, and if possible, ways to contextualize the word in a math task other than the one in the lesson. Hyperlinks to resources are encouraged.
Take Care

• Please complete the exit ticket and place it on the parking lot.
• Please help us keep the room in order by throwing away any trash and tidying your area.
• Bring snacks, drinks, and/or other food to share!
• See you tomorrow. Travel safely!