

Mathematical Reasoning Part 1: PLC Module

The Minnesota Department of Education (MDE) provided a webinar on January 11th, 2023 on Mathematical Reasoning in the classroom. This was the first installment of a multipart series of professional development that MDE will start releasing. Here is a PLC lesson plan that can be modified and used for any PLC.

RESOURCES

- [2022 Minnesota Version 3 Mathematics Standards](#) (page 9 & 118) - Math Practice #1
- [Desmos Task](#)-make a copy and create a student link
- **VIDEO** [How old is the Shepherd?](#)
- **BLOG** [How old is the Shepherd? - Robert Kaplinsky](#)
- [PowerPoint Link](#)
- **Possible Action Item #1** - Use the MQT [Minnesota Questions Tool](#) rationales for Sense Making
 - [Benchmark Achievement Level Descriptors](#)
- **Possible Action Item #2** - [PLC Module on Mathematical Sense Making](#)
- **Possible Action Item #3** - [Classroom Observation Protocol \(click on tabs for directions\)](#)

Potential 45-60 minute PLC Agenda

- Introductions & Quick Math Task (Desmos slides #1&2 & Google Slides #4-5)
- Define Goals for Session (Google Slides #6-7)
- Define 'Sense Making' with Math Practice #1 - found in the 2022 (future) MN Math Standards. (Google Slides #8-9)
- Introduce Math Question from Video (Google Slide #10) and have participants respond with their predictions in Desmos (Desmos Slide #3)
- Watch [How old is the shepherd?](#) (Google Slides #11)
- Individual Think Time - what adult actions lead to these response (Desmos slides #12-14 & Google Slides #)
- Group discussions about adult actions that lead to these responses (Desmos slides #4&5 & Google Slides #12-14)
- OPTIONAL - Connection to MCA's and Standards (Google Slides #15-20 & Desmos Slide #6)
- Next Steps (Desmos slides #7 & Google Slides #23-25)
 - **Possible Action Item #1** - Use the MQT [Minnesota Questions Tool](#) rationales for Sense Making
 - [Benchmark Achievement Level Descriptors](#)
 - **Possible Action Item #2** - [PLC Module on Mathematical Sense Making \(this document\)](#)
 - **Possible Action Item #3** - [Classroom Observation Protocol \(click on tabs for directions\)](#)

We would love to hear your feedback for future webinars!

Sara Van Der Werf, Mathematics Standards and Instruction Specialist (sara.vanderwerf@state.mn.us)

Angela Hochstetter, Mathematics Assessment Specialist (angela.hochstetter@state.mn.us)

Michael Huberty, Mathematics Assessment Specialist (michael.huberty@state.mn.us)