Math Learning Lab (template)

- Schedule
- Task: (do the math yourself first!)
- Lesson/Task Planning
- Observation Focus (choose focus from TRU framework)
- Debrief Notes

Adapted from Intentional Talk, The Formative 5, https://whenmathhappens.com/category/5-practices/, and TRU observation guides framework

SCHEDULE

Grade ___ Lesson Day - DATE

TIME	EVENT	NOTES

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Task: (do the math yourself first!)

INSERT TASK DETAILS AND/OR LINKS HERE

Classroom Consideration

Strategy - how might students approach the task?	How would you know "it" if you saw it?	What mathematical challenges or [mis]conceptions might you observe?	Order*

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LESSON PLANNING

Math Goal/Routine Goal *Why did we choose this task? What is the student learning experience/opportunity goal?*	
Launch *How will the lesson open? How to present connection to students with current work?*	
Working *Pairs, teams, individual; desks, whiteboards, posters*	
Exploration *What potential Talk Moves and/or Prompts might you use?*	Qs to ask all students to assess understanding of key mathematical ideas: Qs/teacher moves to engage all learners: Qs to ask students to extend/advance their thinking:
Discussion *What potential Talk Moves and/or Prompts might you use?*	Qs to focus the discussion on the math goal:
Lesson Close *How will we wrap up the lesson? Is there something that you want to reinforces or leave students thinking about?*	

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OBSERVATION FOCUS (typically choose one - delete ones not needed columns - full details at TRU observation guides framework)

The Mathematics *The extent to which central mathematics content and practices, as represented by the MA curriculum frameworks, are present and embodied in instruction. Every student should have opportunities to grapple meaningfully with key ideas and, in doing so, to become a knowledgeable, flexible, and resourceful mathematical thinking and problem solver. Teachers should have opportunities to consider and discuss how each lesson's activities connect to the concepts, practices, and habits of mind they want students to develop over time.* **GOAL:** All student work on core mathematica issues in ways that enable them to develop conceptual understandings, develop reasoning and problems solving skills, and use mathematical concepts, toll, methods and representations in relevant contexts.
Through a student's eyes: ● What's the big idea in this lesson? ● How does it connect to what I already know?
What are the big ideas in this lesson? How do they connect to what has come before, and/or establish a base for future work? How do the ways students engage with the material support the development of conceptual understanding and the development of mathematical habits of mind?
NOTES:
Cognitive Demand *The extent to which students have opportunities to grapple with and make sense of important mathematical ideas and their use. Students learn best when they are challenged in ways that provide room and support for growth, with task difficulty ranging from moderate to demanding. The level of challenge should be conducive to what has been called "productive struggle."* ***GOAL**: All students have opportunities to make their own sense of important mathematical ideas, developing deeper understandings, connections, and applications by building on what they know.*
Through a student's eyes: ● How long am I given to think, and to make sense of things? ● What happens when I get stuck? ● Am I invited to explain things, or just give answers?

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What opportunities do students have to make sense of mathematical content and practices? How are they supported in sense making so that they are not lost– yet real challenge has been maintained, so that they have opportunities to grapple with important ideas?
NOTES:
Access to Mathematical Content *The extent to which classroom activities invite and support the meaningful engagement with core mathematical content and practices by all students. Finding ways to support the diverse range of learners in engaging meaningfully is the key to an equitable classroom.* **GOAL:** All students are supported in access to central mathematical content , and participate actively in the work of the class/ Diverse strengths and needs are built on through the use of various strategies, resources, and technologies that enable all students to participate meaningfully.
Through a student's eyes: ● Do I get to participate in meaningful mathematical learning? ● Can I hide or be ignored?
In what way does each student engage in the the work of the class? How can more opportunities for every student to participate in meaningful ways be created?
NOTES:
Agency, Authority, and Identity *The extent to which every student has opportunities to explore, conjecture, reason, explain, and build on emerging ideas, contributing to the development of agency (the willingness to engage academically) and ownership over the content, resulting in positive mathematical identities.* **GOAL:** All students build productive mathematical identities through taking advantage of opportunities to engage meaningfully with the discipline and share and refine their developing ideas.
Through a student's eyes: ● Do I get to explain, to present my ideas? Are they built on? ● Am I recognized as being capable and able to contribute in meaningful ways?

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What opportunities do students have to see themselves and others as proficient mathematical thinkers, to grapple with challenges and construct new understanding, to build on others' ideas, and demonstrate their understandings? How can more of these opportunities be created?
NOTES:
Formative [Uses of] Assessment *The extent to which classroom activities elicit all students' thinking and subsequent interactions respond to that thinking, by building on productive beginnings or addressing emerging misunderstandings. High quality instruction 'meets students where they are" and gives them opportunities to develop deeper understandings, both as shaped by the teacher and in student-to-student interactions.* **GOAL:** Every student's learning is continually enhanced by the ongoing strategic and flexible use of techniques and activities that allow student to reveal their emerging understandings, and that provide opportunities both to rethink misunderstandings to build on productive ideas.
Through a student's eyes: ● Do classroom discussions include my thinking? ● Does instruction respond to my thinking and help me think more deeply?
What opportunities do students have to demonstrate their understandings? What opportunities exist to build on the thinking that is revealed? How do teachers and/or other students take up these opportunities? Where can more opportunities be created?
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DEBRIEF NOTES

Classroom Visit Reflection

- What [math ideas] did you hear kids noticing?
- What evidence was there that students were paying attention to [structure]?
- What teacher moves/questions helped facilitate this type of thinking?
- What went well?
- What in our planning do you think impacted this?
- What was challenging or confusing for students?
- What in our plan might we want to adjust for the next class?

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