Mathematics in a PLC at Work Lesson-Design Tool

Preparing for the Lesson
Unit: **Date:** **Lesson description:**
Essential learning standard: State the essential content and process standard *for the unit* you address during *this* lesson. • **Content**—Write as an *I can* statement. • **Process**—Write as an *I can* statement.
Learning target: State the specific learning outcome(s) for this lesson. *Use, "Students will be able to . . ."*
Academic language vocabulary: State the academic vocabulary expectations for the lesson. Describe how you will explicitly address any new vocabulary.
Beginning-of-Class Routines
Prior knowledge: Describe the warm-up activity you will use. How does the warm-up activity connect to students' prior knowledge, connect to an analysis of homework progress, or connect to future learning?
During-Class Routines
Task 1: Cognitive Demand (Circle one): *High* or *Low* What are the learning activities to engage students in learning the target? Be sure to list materials as necessary.

What will the teacher be doing?	What will the students be doing?
• How will you present and then monitor student response to the task? • How will you expect students to demonstrate proficiency of the learning target during in-class checks for understanding? • How will you scaffold instruction for students who are stuck during the lesson or the lesson tasks (assessing questions)? • How will you further learning for students who are ready to advance beyond the standard during class (advancing questions)?	• How will you actively engage students in each part of the lesson? • What type of student discourse does this task require—whole group or small group? • What mathematical thinking (reasoning, problem solving, or justification) are students developing during this task?

Task 2: Cognitive Demand (Circle one): *High* or *Low*
What are the learning activities to engage students in learning the target? Be sure to list materials as necessary.

What will the teacher be doing?	**What will the students be doing?**
• How will you present and then monitor student response to the task? • How will you expect students to demonstrate proficiency of the learning target during in-class checks for understanding? • How will you scaffold instruction for students who are stuck during the lesson or the lesson tasks (assessing questions)? • How will you further learning for students who are ready to advance beyond the standard during class (advancing questions)?	• How will you actively engage students in each part of the lesson? • What type of student discourse does this task require—whole group or small group? • What mathematical thinking (reasoning, problem solving, or justification) are students developing during this task?

Task 3: Cognitive Demand (Circle one): *High* or *Low*
What are the learning activities to engage students in learning the target? Be sure to list materials as necessary.

What will the teacher be doing?	**What will the students be doing?**
• How will you present and then monitor student response to the task? • How will you expect students to demonstrate proficiency of the learning target during in-class checks for understanding? • How will you scaffold instruction for students who are stuck during the lesson or the lesson tasks (assessing questions)? • How will you further learning for students who are ready to advance beyond the standard during class (advancing questions)?	• How will you actively engage students in each part of the lesson? • What type of student discourse does this task require—whole group or small group? • What mathematical thinking (reasoning, problem solving, or justification) are students developing during this task?

End-of-Class Routines
Common homework: Describe the independent practice teachers will assign when the lesson is complete.
Lesson closure for evidence of learning: How will lesson closure include a student-led summary? By the end of the lesson, how will you measure student proficiency and that students develop a deepened (and conceptual) understanding of the learning target or targets for the lesson?
Teacher end-of-lesson reflection: (To be completed by the teacher after the lesson is over) Which aspects of the lesson (tasks or teacher or student actions) led to student understanding of the learning target? What were common misconceptions or challenges with understanding, if any? How should you address these in the next lessons?

There is a difference between mathematics lesson *planning* and mathematics lesson *design*. Lesson planning tends to be more formal and focus on a rote script that the teacher follows for the lesson. Lesson design tends to allow for quite a bit of teacher freedom within well-defined, research-affirmed parameters. Much like the PLC at Work culture, lesson design tends to be simultaneously loose and tight; that is, the design elements must be present, but the method for implementing those elements has a broad and deep application.

This lesson-design tool helps ensure your teacher team reaches mathematics lesson clarity on all six of the lesson-design elements known to significantly impact student learning. Thus, your collaborative grade-level or course-based team is uniquely structured to provide the time and support it needs to interpret the mathematics standards for the unit, embed *balanced* student-engaged discourse practices into daily lessons, and reflect together on the effectiveness of your implementation, sharing evidence of student learning each day.

You can use this tool during your planning for the instruction of the mathematics lesson as a way to support the focus and design of the balanced-cognitive-demand mathematics tasks you choose to teach each learning standard every day. Take special notice of the expectation that, for every mathematical task or problem you use to teach the lesson, you should design what you expect the students to be doing as well as your own movements and actions. Framing the mathematics lesson from the students' point of view is a powerful perspective for understanding how the students make meaning during the lesson.