

Table 2.2:
**Elements of an Effective Middle School Mathematics
Classroom Lesson Design**

Lesson Components	Probing Questions for Effective Lesson Design	Reflection
1. Lesson Context: Identifying Learning Targets Balancing Procedural Fluency and Conceptual Understanding	What is the learning target for the lesson? How does it connect to the bigger focus of the unit?	
	What evidence will be used to determine the level of student readiness and prior knowledge for the learning target?	
	Are conceptual understanding and procedural fluency appropriately balanced in this lesson, given the unit goals?	
	Is the mathematics lesson primarily skill-based building and procedural-fluency building (a <i>how-to</i> lesson)?	
	Is the mathematics lesson concept or generalization based (a <i>what</i> lesson)?	
	How will you formatively assess students' conceptual understanding or procedural skills?	
	Which CCSS Mathematical Practices will students be engaged in during this lesson?	

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<p>2. Lesson Process: Selecting and Using High-Cognitive-Demand Tasks Planning and Implementing Student Discourse and Engagement Implementing Formative Assessment Through Small-Group Discourse</p>	<p>What tasks will you use to engage students in the mathematics content of the lesson? What is the cognitive-demand level of the tasks?</p>	
	<p>How will you ensure the task is accessible and meaningful to all students while still maintaining a high level of cognitive demand for students?</p>	
	<p>What mathematical tools will be used during the lesson? How might technology play a useful role?</p>	
	<p>What student responses, solutions, and approaches do you anticipate? Where might students get stuck?</p>	
	<p>How will you sequence tasks to build mathematical reasoning and sense making, and connect new learning to student prior knowledge?</p>	
	<p>What are the assessing and advancing questions you might ask as students work on the tasks? What will you ask if students are stuck?</p>	
	<p>How will students be engaged in self-reflection and action about their own learning toward the learning targets?</p>	
	<p>What strategies will be used to collect data (formal or informal) about each student's progress toward the learning target and to provide students with formative feedback? What student misconceptions might need to be addressed?</p>	
	<p>Which student solutions will you highlight in the closure discussion? In what sequence? What questions will you ask about each one?</p>	

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3. Introduction, Daily Review, and Closure	What activity will be used to immediately engage students at the beginning of the class period?	
	How will you provide brief, five-minute meaningful feedback on homework?	
	How will you structure the lesson summary? What questions will you ask? How will the students summarize their learning, including key vocabulary?	
4. Homework	How do the collaborative team-developed unit homework assignments provide variety and meaningful practice—including long-term review and questions—that promote procedural fluency, conceptual understanding, and development of the Mathematical Practices?	