

**Table 2.3:**  
**Elements of an Effective High School Mathematics Classroom Lesson Design**

	Probing Questions for Effective Lesson Design	Reflection
<b>1. Lesson Context: Learning Targets</b>  <b>Procedural Fluency and Conceptual Understanding Balancing</b>	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 examples and tasks appropriately balanced?	
	Is the mathematics lesson primarily skill based and aimed at building procedural fluency (a <i>how-to</i> lesson)?	
	Is the mathematics lesson concept or generalization based (a <i>what</i> lesson)?	
	How will you formatively assess student conceptual understanding of the mathematics concepts and of the procedural skill?	
	Which CCSS Mathematical Practices will be emphasized during this lesson?	
<b>2. Lesson Process: High-Cognitive-Demand Tasks</b>  <b>Planning Student Discourse and Engagement</b>	What tasks will you use to create an a-ha student moment and leave “mathematical residue” (insights into the mathematical structure of concepts) regardless of content type at a high-cognitive-demand level?	
	How will you ensure the task is accessible and meaningful to all students while still maintaining a high-cognitive demand for students?	

	Probing Questions for Effective Lesson Design	Reflection
<b>Formative Assessment Through Small Group Discourse</b>	What strategic mathematical tools will be used during the lesson?	
	How will you present and sequence each lesson example to build mathematical reasoning and sense making connected to student prior knowledge?	
	What are the advancing and assessing questions you might ask during guided, independent, or group practice? What are anticipated student responses to the examples or tasks?	
	How will students be engaged in self-reflection and action about their own learning toward the learning targets?	
	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?	
	How might technology and student attention to precision play a role in the student lesson experience?	
<b>3. Introduction, Daily Review, and Closure</b>	What activity will be used to immediately engage students at the beginning of the class period?	
	How can the daily review be used to provide brief, five-minute meaningful feedback on homework?	
	How will the students summarize the lesson learning target and key vocabulary?	
<b>4. Homework</b>	How does the collaborative team-developed unit homework assignments provide variety and meaningfulness to the students—including long-term review and questions—that balance procedural fluency with conceptual understanding?	