

Table 2.2:
Mathematical Practices—Look-Fors as Classroom Indicators

Mathematical Practice	Look-Fors: Classroom Indicators
Mathematical Practice 1: Make sense of problems, and persevere in solving them.	<p>Students: Are engaged in solving problems and high-cognitive-demand tasks</p> <p>Teacher: Provides adequate time with formative feedback for students to discuss problem pathways and solutions with peers</p>
Mathematical Practice 2: Reason abstractly and quantitatively.	<p>Students: Are able to contextualize or decontextualize problems</p> <p>Teacher: Provides access to and uses appropriate representations (manipulative materials, drawings, or online renderings) of problems and asks questions focused on determining student reasoning</p>
Mathematical Practice 3: Construct viable arguments, and critique the reasoning of others.	<p>Students: Understand and use prior learning in constructing arguments</p> <p>Teacher: Provides opportunities for students to listen to or read the conclusions and arguments of others—as students discuss approaches and solutions to problems, the teacher encourages them to provide arguments for why particular strategies work and to listen and respond to the reasoning of others and asks questions to prompt discussions.</p>
Mathematical Practice 4: Model with mathematics.	<p>Students: Analyze and model relationships mathematically (such as when using an expression or equation)</p> <p>Teacher: Provides contexts for students to apply the mathematics learned</p>
Mathematical Practice 5: Use appropriate tools strategically.	<p>Students: Have access to and use instructional tools to deepen understanding (for example, manipulative materials, drawings, and technological tools)</p> <p>Teacher: Provides and demonstrates appropriate tools (like manipulatives)</p>
Mathematical Practice 6: Attend to precision.	<p>Students: Recognize the need for precision in response to a problem and use appropriate mathematics vocabulary</p> <p>Teacher: Emphasizes the importance of precise communication, including appropriate use of mathematical vocabulary, and emphasizes the importance of accuracy and efficiency in solutions to problems, including use of estimation and mental mathematics, when appropriate</p>
Mathematical Practice 7: Look for and make use of structure.	<p>Students: Are encouraged to look for patterns and structure (for example, when using properties and composing and decomposing numbers) within mathematics</p> <p>Teacher: Provides time for students to discuss patterns and structures that emerge in a problem's solution</p>
Mathematical Practice 8: Look for and express regularity in repeated reasoning.	<p>Students: Reason about varied strategies and methods for solving problems and check for the reasonableness of their results</p> <p>Teacher: Encourages students to look for and discuss regularity in their reasoning</p>

Source: Adapted from Kanold, Briars, & Fennell, 2012.