Standards for Mathematical Practice Look-for Tool

Mathematics Practices		Student dispositions:	Teacher actions to engage students in Practices:
Overarching habits of mind of a productive math thinker	**1. Make sense of problems and persevere in solving them**	☐ Have or value sense-making ☐ Use patience and persistence to listen to others ☐ Be able to use strategies ☐ Use self-evaluation and redirections ☐ Be able to show or use multiple representations ☐ Communicate bother verbally and written ☐ Be able to deduce what is a reasonable solution Comments:	☐ Provide open-ended and rich problems ☐ Ask probing questions ☐ Model multiple problem-solving strategies through Think- Alouds ☐ Promotes and values discourse ☐ Cross-curricular integrations ☐ Promotes collaboration ☐ Probe student responses (correct or incorrect) for understanding and multiple approaches ☐ Provide solutions Comments:
	6. Attend to precision	☐ Communicate with precision-orally and written ☐ Use mathematics concepts and vocabulary appropriately. ☐ State meaning of symbols and use appropriately ☐ Attend to units/labeling/tools accurately ☐ Carefully formulate explanations ☐ Calculate accurately and efficiently ☐ Express answers in terms of context ☐ Formulate and make use of definitions with others and their own reasoning. Comments:	☐ Think aloud/Talk aloud ☐ Explicit instruction given through use of think aloud/talk aloud ☐ Guided Inquiry including teacher gives problem, students work together to solve problems, and debriefing time for sharing and comparing strategies ☐ Probing questions targeting content of study Comments:
Reasoning and Explaining	**2. Reason abstractly and quantitatively**	☐ Create multiple representations ☐ Interpret problems in contexts ☐ Estimate first/answer reasonable ☐ Make connections ☐ Represent symbolically ☐ Visualize problems ☐ Talk about problems, real life situations ☐ Attending to units ☐ Using context to think about a problem Comments:	☐ Develop opportunities for and model problem solving strategies ☐ Give time for processing and discussing ☐ Tie content areas together to help make connections ☐ Give real world situations ☐ Think aloud for student benefit ☐ Value invented strategies and representations ☐ Less emphasis on the answer Comments:
	3. Construct viable arguments and critique the reasoning of others	☐ Ask questions ☐ Use examples and non-examples ☐ Analyze data ☐ Use objects, drawings, diagrams, and actions ☐ Students develop ideas about mathematics and support their reasoning ☐ Listen and respond to others ☐ Encourage the use of mathematics vocabulary Comments:	☐ Create a safe environment for risk-taking and critiquing with respect ☐ Model each key student disposition ☐ Provide complex, rigorous tasks that foster deep thinking ☐ Provide time for student discourse ☐ Plan effective questions and student grouping Comments:

Mathematics Practices		Students:	Teacher(s) promote(s) by:
Modeling and Using Tools	**4. Model with mathematics**	☐ Realize they use mathematics (numbers and symbols) to solve/work out real-life situations ☐ When approached with several factors in everyday situations, be able to pull out important information needed to solve a problem. ☐ Show evidence evidence that they can use their mathematical results to think about a problem and determine if the results are reasonable. If not, go back and look for more information ☐ Make sense of the mathematics Comments:	☐ Allow time for the process to take place (model, make graphs, etc.) ☐ Model desired behaviors (think alouds) and thought processes (questioning, revision, reflection/written) ☐ Make appropriate tools available ☐ Create an emotionally safe environment where risk taking is valued ☐ Provide meaningful, real world, authentic, performance-based tasks (non traditional work problems) Comments:
	5. Use appropriate tools strategically	☐ Choose the appropriate tool to solve a given problem and deepen their conceptual understanding (paper/pencil, ruler, base 10 blocks, compass, protractor) ☐ Choose the appropriate technological tool to solve a given problem and deepen their conceptual understanding (e.g., spreadsheet, geometry software, calculator, web 2.0 tools) Comments:	☐ Maintain appropriate knowledge of appropriate tools ☐ Effective modeling of the tools available, their benefits and limitations ☐ Model a situation where the decision needs to be made as to which tool should be used Comments:
Seeing structure and generalizing	**7. Look for and make use of structure**	☐ Look for, interpret, and identify patterns and structures ☐ Make connections to skills and strategies previously learned to solve new problems/tasks ☐ Reflect and recognize various structures in mathematics ☐ Breakdown complex problems into simpler, more manageable chunks Comments:	☐ Be quiet and allow students to think aloud ☐ Facilitate learning by using open-ended questioning to assist students in exploration ☐ Careful selection of tasks that allow for students to make connections ☐ Allow time for student discussion and processing ☐ Foster persistence/stamina in problem solving Comments:
	8. Look for and express regularity in repeated reasoning	☐ Identify patterns and make generalizations ☐ Continually evaluate reasonableness of intermediate results ☐ Maintain oversight of the process Comments:	☐ Provide rich and varied tasks that allow students to generalize relationships and methods, and build on prior mathematical knowledge ☐ Provide adequate time for exploration ☐ Provide time for dialogue and reflection ☐ Ask deliberate questions that enable students to reflect on their own thinking ☐ Create strategic and intentional check in points during student work time. Comments:

* All indicators are not necessary for providing full evidence of practice(s). Each practice may not be evident during every lesson.