

Standards for Mathematical Practices - “Student Look-fors”

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|--|---|---|---|
| School: _____ | Teacher(s): _____ | Course/Period: _____ | Start/End Times: _____ |
| Mathematical Topic(s): _____ | | | |
| <p>1. Make sense of problems and perseveres in solving them</p> <ul style="list-style-type: none"> <input type="checkbox"/> Understand the meaning of the problem and look for entry points to its solution <input type="checkbox"/> Analyze information (givens, constraints, relationships, goals) <input type="checkbox"/> Make conjectures and plan a solution pathway <input type="checkbox"/> Monitor and evaluate the progress and change course as necessary <input type="checkbox"/> Check answers to problems and ask, “Does this make sense?” <hr/> <p>Comments: _____</p> | <p>2. Reason abstractly and quantitatively</p> <ul style="list-style-type: none"> <input type="checkbox"/> Make sense of quantities and relationships in problem situations <input type="checkbox"/> Represent abstract situations symbolically and understand the meaning of quantities <input type="checkbox"/> Create a coherent representation of the problem at hand <input type="checkbox"/> Consider the units involved <input type="checkbox"/> Flexibly use properties of operations <hr/> <p>Comments: _____</p> | <p>3. Construct viable arguments and critique the reasoning of others</p> <ul style="list-style-type: none"> <input type="checkbox"/> Use definitions and previously established causes/effects (results) in constructing arguments <input type="checkbox"/> Make conjectures and use counterexamples to build a logical progression of statements to explore and support their ideas <input type="checkbox"/> Communicate and defend mathematical reasoning using objects, drawings, diagrams, actions <input type="checkbox"/> Listen to or read the arguments of others <input type="checkbox"/> Decide if the arguments of others make sense and ask probing questions to clarify or improve the arguments <hr/> <p>Comments: _____</p> | <p>4. Model with mathematics.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Apply prior knowledge to solve real world problems <input type="checkbox"/> Identify important quantities and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas <input type="checkbox"/> Make assumptions and approximations to make a problem simpler <input type="checkbox"/> Check to see if an answer makes sense within the context of a situation and change a model when necessary <hr/> <p>Comments: _____</p> |
| <p>5. Use appropriate tools strategically.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Make sound decisions about the use of specific tools. Examples might include: <ul style="list-style-type: none"> <input type="checkbox"/> Calculator <input type="checkbox"/> Concrete models <input type="checkbox"/> Digital Technology <input type="checkbox"/> Pencil/paper <input type="checkbox"/> Ruler, compass, protractor <input type="checkbox"/> Use technological tools to visualize the results of assumptions, explore consequences and compare predications with data <input type="checkbox"/> Identify relevant external math resources (digital content on a website) and use them to pose or solve problems <input type="checkbox"/> Use technological tools to explore and deepen understanding of concepts <hr/> <p>Comments: _____</p> | <p>6. Attend to precision.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Communicate precisely using clear definitions <input type="checkbox"/> State the meaning of symbols, carefully specifying units of measure, and providing accurate labels <input type="checkbox"/> Calculate accurately and efficiently, expressing numerical answers with a degree of precision <input type="checkbox"/> Provide carefully formulated explanations <input type="checkbox"/> Label accurately when measuring and graphing <hr/> <p>Comments: _____</p> | <p>7. Look for and make use of structure.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Look for patterns or structure, recognizing that quantities can be represented in different ways <input type="checkbox"/> Recognize the significance in concepts and models and use the patterns or structure for solving related problems <input type="checkbox"/> View complicated quantities both as single objects or compositions of several objects and use operations to make sense of problems <hr/> <p>Comments: _____</p> | <p>8. Look for and express regularity in repeated reasoning</p> <ul style="list-style-type: none"> <input type="checkbox"/> Notice repeated calculations and look for general methods and shortcuts <input type="checkbox"/> Continually evaluate the reasonableness of intermediate results (comparing estimates) while attending to details and make generalizations based on findings <hr/> <p>Comments: _____</p> |
| Additional notes: _____ | | | |
| Non-evaluative visitor(s): _____ Date: _____ | | | |