# Standards for Mathematical Practices - “Student Look-fors”

<table>
<thead>
<tr>
<th>Mathematical Topic(s):</th>
<th>Teacher(s):</th>
<th>Course/Period:</th>
<th>Start/End Times:</th>
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</thead>
</table>

## 1. Make sense of problems and persevere in solving them
- [ ] Understand the meaning of the problem and look for entry points to its solution
- [ ] Analyze information (givens, constraints, relationships, goals)
- [ ] Make conjectures and plan a solution pathway
- [ ] Monitor and evaluate the progress and change course as necessary
- [ ] Check answers to problems and ask, “Does this make sense?”

**Comments:**

## 2. Reason abstractly and quantitatively
- [ ] Make sense of quantities and relationships in problem situations
- [ ] Represent abstract situations symbolically and understand the meaning of quantities
- [ ] Create a coherent representation of the problem at hand
- [ ] Consider the units involved
- [ ] Flexibly use properties of operations

**Comments:**

## 3. Construct viable arguments and critique the reasoning of others
- [ ] Use definitions and previously established causes/effects (results) in constructing arguments
- [ ] Make conjectures and use counterexamples to build a logical progression of statements to explore and support their ideas
- [ ] Communicate and defend mathematical reasoning using objects, drawings, diagrams, actions
- [ ] Listen to or read the arguments of others
- [ ] Decide if the arguments of others make sense and ask probing questions to clarify or improve the arguments

**Comments:**

## 4. Model with mathematics.
- [ ] Apply prior knowledge to solve real world problems
- [ ] Identify important quantities and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas
- [ ] Make assumptions and approximations to make a problem simpler
- [ ] Check to see if an answer makes sense within the context of a situation and change a model when necessary

**Comments:**

## 5. Use appropriate tools strategically.
- [ ] Make sound decisions about the use of specific tools. Examples might include:
  - [ ] Calculator
  - [ ] Concrete models
  - [ ] Digital Technology
  - [ ] Pencil/paper
  - [ ] Ruler, compass, protractor
- [ ] Use technological tools to visualize the results of assumptions, explore consequences and compare predications with data
- [ ] Identify relevant external math resources (digital content on a website) and use them to pose or solve problems
- [ ] Use technological tools to explore and deepen understanding of concepts

**Comments:**

## 6. Attend to precision.
- [ ] Communicate precisely using clear definitions
- [ ] State the meaning of symbols, carefully specifying units of measure, and providing accurate labels
- [ ] Calculate accurately and efficiently, expressing numerical answers with a degree of precision
- [ ] Provide carefully formulated explanations
- [ ] Label accurately when measuring and graphing

**Comments:**

## 7. Look for and make use of structure.
- [ ] Look for patterns or structure, recognizing that quantities can be represented in different ways
- [ ] Recognize the significance in concepts and models and use the patterns or structure for solving related problems
- [ ] View complicated quantities both as single objects or compositions of several objects and use operations to make sense of problems

**Comments:**

## 8. Look for and express regularity in repeated reasoning
- [ ] Notice repeated calculations and look for general methods and shortcuts
- [ ] Continually evaluate the reasonableness of intermediate results (comparing estimates) while attending to details and make generalizations based on findings

**Comments:**

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**Additional notes:**

**Non-evaluative visitor(s):**

**Date:**

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*RAFT 5/2011  Adapted from Common Core State Standards for Mathematics: Standards for Mathematical Practice*