Commonalities Among the Practices in Science, Mathematics and English Language Arts

Based on work by Tina Cheuk ell.stanford.edu

**Math**

- **M1**: Make sense of problems and persevere in solving them
- **M2**: Reason abstractly & quantitatively
- **M6**: Attend to precision
- **M7**: Look for & make use of structure
- **M8**: Look for & make use of regularity in repeated reasoning

**Science**

- **S1**: Ask questions and define problems
- **S2**: Develop & use models
- **S5**: Use mathematics & computational thinking
- **S3**: Plan & carry out investigations
- **S4**: Analyze & interpret data
- **S6**: Construct explanations & design solutions

**ELA**

- **E1**: Demonstrate independence in reading complex texts, and writing and speaking about them
- **E2**: Build a strong base of knowledge through content rich texts
- **E3**: Obtain, synthesize, and report findings clearly and effectively in response to task and purpose
- **E4**: Construct viable arguments and critique reasoning of others
- **E5**: Read, write, and speak grounded in evidence
- **E6**: Use technology & digital media strategically & capably
- **E7**: Come to understand other perspectives and cultures through reading, listening, and collaborations
- **E8**: Obtain, evaluate, & communicate information

**Commonalities**
## Practices in Mathematics, Science, and English Language Arts*

<table>
<thead>
<tr>
<th>Math</th>
<th>Science</th>
<th>English Language Arts</th>
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<tbody>
<tr>
<td><strong>M1.</strong> Make sense of problems and persevere in solving them.</td>
<td><strong>S1.</strong> Asking questions (for science) and defining problems (for</td>
<td><strong>E1.</strong> They demonstrate independence.</td>
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<tr>
<td><strong>M2.</strong> Reason abstractly and quantitatively.</td>
<td>engineering)</td>
<td><strong>E2.</strong> They build strong content knowledge.</td>
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<td><strong>M3.</strong> Construct viable arguments and critique the reasoning of</td>
<td><strong>S2.</strong> Developing and using models.</td>
<td><strong>E3.</strong> They respond to the varying demands of audience,</td>
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<td>others.</td>
<td><strong>S3.</strong> Planning and carrying out investigations.</td>
<td>task, purpose, and discipline.</td>
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<td><strong>M4.</strong> Model with mathematics.</td>
<td><strong>S4.</strong> Analyzing and interpreting data.</td>
<td><strong>E4.</strong> They comprehend as well as critique.</td>
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<td><strong>M5.</strong> Use appropriate tools strategically.</td>
<td><strong>S5.</strong> Using mathematics, information and computer technology, and</td>
<td><strong>E5.</strong> They value evidence.</td>
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<tr>
<td><strong>M6.</strong> Attend to precision.</td>
<td>computational thinking.</td>
<td><strong>E6.</strong> They use technology and digital media strategically</td>
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<td><strong>M7.</strong> Look for and make use of structure.</td>
<td><strong>S6.</strong> Constructing explanations (for science) and designing solutions</td>
<td><strong>E7.</strong> They come to understanding other perspectives and</td>
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<td><strong>M8.</strong> Look for and express regularity in repeated reasoning.</td>
<td>(for engineering).</td>
<td>cultures.</td>
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* The Common Core English Language Arts uses the term “student capacities” rather than the term “practices” used in Common Core Mathematics and the Next Generation Science Standards.