### Breaking Down a Mathematics Standard

**What is the domain/conceptual category/big idea?**

- **Operations and Algebraic Thinking**

**Standards for Mathematical Practice**

<table>
<thead>
<tr>
<th>MP.1</th>
<th>Make sense of problems and persevere in solving them.</th>
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<tbody>
<tr>
<td>MP.2</td>
<td>Reason abstractly and quantitatively.</td>
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<tr>
<td>MP.3</td>
<td>Construct viable arguments and critique the reasoning of others.</td>
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<tr>
<td>MP.4</td>
<td>Model with mathematics.</td>
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<tr>
<td>MP.5</td>
<td>Use appropriate tools strategically.</td>
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<tr>
<td>MP.6</td>
<td>Attend to precision.</td>
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<tr>
<td>MP.7</td>
<td>Look for and make use of structure.</td>
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<tr>
<td>MP.8</td>
<td>Look for and express regularity in repeated reasoning.</td>
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</tbody>
</table>

**Cluster: What is the broader understanding that the standard plays a role in building?**

- Solve problems involving the four operations and explain patterns in arithmetic.

**Standards**

- Identify the target of the standard:
  - conceptual understanding
  - procedural skill/fluency
  - application

Consider how the target of the standard will have an impact on instruction and assessment. (For more information, refer to p. 7, 10 and 15 of KAS for Mathematics.)

Use tables from appendix A Table 1 & 2 on pages 254 and 255 of the KAS for Mathematics. In Table 2, the compare situation problems are not expected until Grade 4!

- What are the specific representations/strategies that will need to be considered when planning instruction? *It is important for students to reason and think about what do they notice and what do they wonder. Maybe students use a bar model, a set model, an area model, or a number line. What is important is that they can make sense of the numbers.*

- What are the possible misconceptions that will need to be addressed during instruction? Some students will not use the additional purposeful questions model they use to help them get started. These questions can help determine what to do next.

- Coherence: Previous Grade → Current Standard → Upcoming Grade
  - How does this standard build off of prior learning? Grade 2: K.Y.2.0A.1; Grade 3: K.Y.3.0A.1 and Grade 4: K.Y.4.0A.5. Students solving multistep problems can be more than 1 or 2 steps.
  - How does this standard support future learning? Grade 4: K.Y.4.0A.5 can lead to students solving multistep problems.
  - How does this standard connect to other standards (or even other clusters or domains)? K.Y.3.0A.8 makes connections with domains MST & M.B.

Attending to the Standards for Mathematical Practice

- **MP.1** When students are engaging in the mathematical practices as they learn this content? (For more information, refer to p. 12-15 of KAS for Mathematics.)
  - MP.1 Students will make sense of the problem.

- **MP.4** Students will make sense of a situation and therefore will solve the problem using a model. One student might decide to use a bar diagram, where another writes an equation.