This sample Assignment Review Protocol looks at how well the Task: Algebra 1 Module 5 Lesson 7 aligns to KY.HS.SP.6. It is important to note that the identified mathematical practices, coherence connections and any clarifications are possible suggestions; however, they are not the only pathways. The value of this resource is in having these discussions at the PLC level to support collective teacher clarity.

**PART ONE: Mathematical Content**: Does this assignment align with the expectations defined by grade-appropriate standards?

Does the assignment focus on one or more grade-appropriate mathematics standards?

Do all questions and/or tasks reach the depth of grade-appropriate standard(s)? Use the following criteria to guide your thinking.

- **Section 1: Target of the Standard**:
  Does the task match the target of the standard (conceptual understanding, procedural skill & fluency, and/or application)? Do the numbers/number types and types of representations (area model, shapes, graphs, functions, etc.) match those called for by the targeted standard(s)? For example,
  - If the standard is **conceptual understanding**, does the task require more than knowing isolated facts and methods? Are students asked to make sense of why a mathematical idea is important and the kinds of contexts in which it is useful?
  - If the standard is **procedural skill/fluency**, does the task require students to apply procedures accurately, efficiently, flexibly and appropriately? Does the task focus students' attention on the use of procedures for the purpose of developing a deeper level of understanding of mathematical concepts or ideas? If general procedures may be followed, can they be followed mindlessly or are students asked to engage with the conceptual ideas that underlie the procedures to complete the task successfully?
  - If the standard is **application**, does the task offer students the opportunity to solve problems in a relevant and meaningful way? Are students asked to select an efficient method to find a solution and develop critical thinking skills? Are students asked to actively examine task constraints that may limit possible solutions and strategies?

- **Section 2: Coherence**: When examining the standard the task addresses,
  - Looking across grade-levels, is there a coherent connection to the same topic in a previous grade? If so, is the task crafted to elicit a more sophisticated level of understanding than would have been acceptable in the previous grade?
  - At the Grade 8 level, students are only as to informally fit and predict/interpret models with linear contexts. This has students selecting between linear, quadratic & exponential models.
  - Depending upon which models are selected, potential connections to KY.HS.SP.7 and KY.HS.SP.8 and across the Conceptual Categories of Algebra & Functions as students engage with various models.

Evidence:
The target of standard KY.HS.SP.6 is **application** (procedural skills are in support of selecting/calculating models in context.)

This task offers students the opportunity to solve problems in realistic contexts:
- Facilitation might need to direct students toward when/why the information would be useful (audience, etc.)
- Students select efficient (and appropriate) strategies.
- Students examine task constraints that may limit possible solutions & strategies.
**Assignment Review Protocol: Math**

<table>
<thead>
<tr>
<th>Target of the Standard</th>
<th>Low (Level 1)</th>
<th>Medium (Level 2)</th>
<th>High (Level 3)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Conceptual Complexity</strong></td>
<td>Solving the problem requires students to recall or recognize a grade-level concept. The student does not need to relate concepts or demonstrate a line of reasoning.</td>
<td>Students may need to relate multiple grade-level concepts or different types, create multiple representations or solutions, or connect concepts with procedures and strategies. The student must do some reasoning but may not need to demonstrate a line of reasoning.</td>
<td>Solving the problem requires students to relate multiple grade-level concepts and to evidence reasoning, planning, analysis, judgment, and/or creative thought OR work with a sophisticated (nontypical) line of reasoning.</td>
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<tr>
<td><strong>Procedural Complexity</strong></td>
<td>Solving the problem entails little procedural demand or procedural demand is below grade level.</td>
<td>Solving the problem entails common or grade-level procedure(s) with friendly numbers.</td>
<td>Solving the problem requires common or grade-level procedure(s) with unfriendly numbers, an unconventional combination of procedures, or requires unusual perseverance or organizational skills in the execution of the procedure(s).</td>
</tr>
<tr>
<td><strong>Application Complexity</strong></td>
<td>Solving the problem entails an application of mathematics, but the required mathematics is either directly indicated or obvious.</td>
<td>Solving the problem entails an application of mathematics and requires an interpretation of the context to determine the procedure or concept (may include extraneous information). The mathematics is not immediately obvious. Solving the problem requires students to decide what to do.</td>
<td>In addition to an interpretation of the context, solving the problem requires recognizing important features, and formulating, computing, and interpreting results as part of a modeling process.</td>
</tr>
</tbody>
</table>

*Source: https://www.achieve.org/files/Cognitive%20Complexity%20Mathematics%20Assessment_FINAL_0.pdf*

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**Overall Content Rating**

Overall, do the content demands of this assignment align with the expectations defined by grade-appropriate standards?

- **0 - Weakly Aligned**: Less than half of the questions on the assignment reach the depth of the targeted grade-appropriate standard(s).
- **1 - Partially Aligned**: More than half (but not all) of the questions on the assignment reach the depth of the targeted grade-appropriate standard(s).
- **2 - Strongly Aligned**: All the questions on the assignment reach the depth of the targeted grade-appropriate standard(s).

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*This assignment doesn't deal with several components of KY.HS.SP.6.b. Additional tasks can be utilized to highlight those aspects of the standard.*
PART TWO: Mathematical Practice: Does the assignment provide meaningful opportunities for students to engage in the standards for mathematical practices?

Yes | No
---|---

Evidence:
MP.2: Students make sense of quantities and their relationships in problem situations. Create a representation of the problem hand and reflect on whether the results make sense.

PART THREE: Relevance: Does the assignment give students an authentic opportunity to connect content standards to real-world issues and/or contexts?

Yes | No
---|---

Evidence: While the contexts are all real-world, they may not be meaningful/authentic as students would like to engage with.

Questions vary on pgs 1-3, while #4 asks similar questions the models are different. Cues to create regression equations, but not what type.

But other tasks could be intentionally selected to balance this instructionally.