

# Rubric: Chocolate, Chocolate, Chocolate!

## Key APS Mathematics Performance Standards:

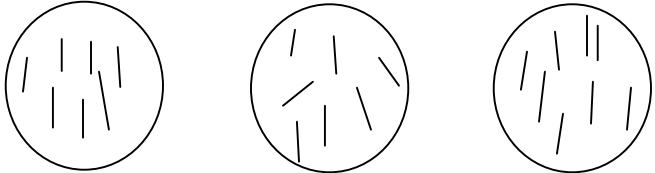
### Target Performance Standards – Grade 2:

1. **Analyzes** data results both orally and in writing.
2. **Counts** by 2s to 100, by 5s and 10s to 200 and by 100s to 1,000.
3. **Decomposes and recomposes** numbers in logical ways to solve problems (e.g.,  $8+5 = (3+5)+5 = 3+(5+5) = 3+10=13$ ).

### Target Performance Standards – Grade 1:

4. **Identifies** equal shares in examples of models partitioned with equal and unequal parts (e.g., share 12 M&M candies among 3 friends, share 11 apples among 5 friends).

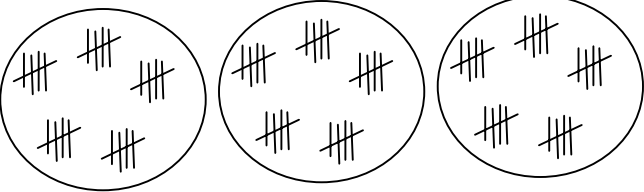
- If the student does not attempt to solve the task or the work on the problem is completely unrelated to the task, the student's work for the task is considered "**Unscorable**" and should not be assigned a performance level of Novice, Apprentice, Practitioner, or Expert.

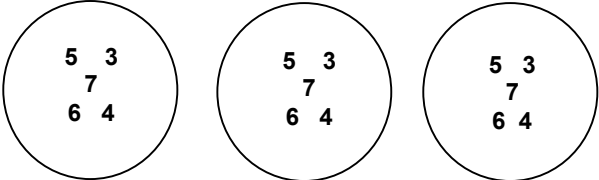
Level	Understanding	Strategies, Reasoning, & Procedures	Communication
<b>Novice</b>	<ul style="list-style-type: none"> <li>❖ The student understands that:               <ul style="list-style-type: none"> <li>• S/he must answer questions about the candy Kisses data, but may answer the questions incorrectly.</li> <li>• S/he must share the Kisses between the three baskets, but does not understand that the Kisses should be shared equally by foil color. The student will not be able to work with the larger numbers.</li> </ul> </li> <li>❖ The student does not recognize a pattern to the Kisses and the number of baskets (the Kisses and the baskets are in 'sets' of three) and does not use the pattern to 'share' the candies.</li> <li>❖ The student does not represent the solution with a number sentence (+, -, x, ÷).</li> </ul>	<ul style="list-style-type: none"> <li>❖ The student has started the task using manipulatives or representations; but does not use an effective strategy to answer the data questions correctly and/or cannot share the Kisses equally between the three baskets.</li> <li>❖ The student draws three baskets and starts distributing the Kisses using a one-to-one correspondence strategy, but cannot accurately track the number of candies.</li> </ul> <p><b>Sample Strategy:</b></p> <p><b>Part 1:</b> Answer data questions.</p> <ol style="list-style-type: none"> <li>1. Silver</li> <li>2. 5 (counts the 5 different foil colors)</li> </ol> <p><b>Part 2:</b> Sharing the candy Kisses. The student randomly places the Kisses into the baskets.</p>  <ul style="list-style-type: none"> <li>• There is not an equal share of Kisses in the basket and the student does not represent their solution with a number sentence.</li> </ul>	<ul style="list-style-type: none"> <li>❖ There is little or no communication, the student did not label the work, and/or their thinking is difficult to follow.</li> <li>❖ <b>Summary:</b> The student cannot write/verbalize his/her final answer, and/or uses little or no math language and symbols to answer the data questions and explain (verbally or in writing) how s/he shared the Kisses equally between the three baskets.</li> <li>❖ <b>Representations:</b> The student can represent the baskets and the Kisses, but has no system (charts/t-tables/graphs) to track the number of Kisses for each basket.</li> </ul>

**Task Specific Rubric:** Chocolate, Chocolate, Chocolate – Grade 2

APS/RDA/CHF: Performance-Based Mathematics Assessment 2001 - 02

\*Proficiency Levels are aligned to the *APS Mathematics Content and Performance Standards – Final 2001*

<p><b>Apprentice</b></p>	<ul style="list-style-type: none"> <li>❖ The student understands that: <ul style="list-style-type: none"> <li>• S/he must answer questions about the candy Kisses data.</li> <li>• S/he must share the Kisses equally between the three baskets, but does not understand that the Kisses should be shared equally by foil color.</li> </ul> </li> <li>❖ The student does not recognize a pattern (the Kisses and the baskets are in 'sets' of three) to the Kisses and the number of baskets and does not use the pattern to 'share' the candies.</li> <li>❖ The student does not represent the solution with a number sentence (+, -, x, ÷).</li> </ul>	<ul style="list-style-type: none"> <li>❖ The student has answered the data questions, started the task using manipulatives or representations, and has chosen a strategy for sharing the Kisses between the three baskets, but does not achieve a correct solution.</li> <li>❖ The student does not recognize a pattern between the number of Kisses, the foil colors and the number of baskets. The student may distribute the candies equally, but not according to color.</li> <li>❖ The student may represent their solution with a number sentence, but it may be incorrect.</li> </ul> <p><b>Sample Strategy:</b></p> <p><b>Part 1:</b> Answer data questions.</p> <p>3. Silver 4. 75</p> <p><b>Part 2:</b> Sharing the candy Kisses.</p> <ul style="list-style-type: none"> <li>• There are three baskets and 75 Kisses, I start by putting 5 Kisses (tally marks) into each basket until all of the Kisses are gone. I counted by 5s to find that each basket gets 25 Kisses.</li> </ul> <div style="text-align: center;">  </div> <ul style="list-style-type: none"> <li>• The student gets a correct solution, but does not share the Kisses by color. The student does not connect their solution to a number sentence.</li> </ul>	<ul style="list-style-type: none"> <li>❖ The student has communicated his/her understanding of the task by labeling their work, but the task is not clearly organized and the student's thinking is hard to follow.</li> <li>❖ <b>Summary:</b> The student states his/her final answer and uses some math language/symbols to answer the data questions and explain (verbally or in writing) how s/he shared the Kisses equally between the three baskets.</li> <li>❖ <b>Representations:</b> The student can represent the baskets and the Kisses, but has not establish an accurate system (charts/t-tables/graphs) to track the number of Kisses for each basket. The student may represent their solution with an equation.</li> </ul>
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<p><b>Practitioner</b></p>	<p><b>Proficiency</b></p> <ul style="list-style-type: none"> <li>❖ The student understands that: <ul style="list-style-type: none"> <li>• S/he must answer questions about the candy Kisses data.</li> <li>• S/he must share the Kisses, according to foil color, equally between the three baskets.</li> <li>• There is a pattern (the Kisses and the baskets are in 'sets' of three) to the Kisses and the number of baskets and uses the pattern to 'share' the candies.</li> </ul> </li> <li>❖ The student represents the solution with a number sentence (+, -, x, ÷).</li> </ul>	<p><b>Proficiency</b></p> <ul style="list-style-type: none"> <li>❖ The student must have a correct solution and demonstrate one strategy that will accurately answer the data questions and find the number of Kisses, according to foil color) shared equally between the three baskets. <ul style="list-style-type: none"> <li>❖ The student identifies a pattern (share each color by 3) and uses the pattern to share the candy Kisses equally between the three baskets.</li> <li>❖ The student relates the solution to a number operation (+, -, x, ÷).</li> </ul> </li> </ul> <p><b>Sample Strategy:</b></p> <p><b>Part 1:</b> Answer data questions.</p> <ol style="list-style-type: none"> <li>1. Silver – 21 Kisses</li> <li>2. There are 75 candy Kisses.</li> </ol> <p><b>Part 2:</b> Sharing the candy Kisses.</p> <ul style="list-style-type: none"> <li>• The student may 'share' the Kisses using any method.</li> <li>• I separated the colors into groups of three, so each basket gets the following colors of Kisses.</li> </ul> <p><b>Key:</b> 5 = Light Pink, 3 = Dark Pink, 7 = Silver, 6 = Green, 4 = Blue</p> <div style="text-align: center;">  </div> <ul style="list-style-type: none"> <li>• The student connects their solution to number sentence.</li> </ul> <p><b>For Example:</b> Each basket contained 25 Kisses: 5 light pink + 3 dark pink + 7 silver + 6 green + 4 blue = 25 Kisses; 25 + 25 + 25 = 75</p>	<p><b>Proficiency</b></p> <ul style="list-style-type: none"> <li>❖ The student can represent his/her work in a clear, organized manner.</li> <li>❖ <b>Summary:</b> The student states his/her final answer and uses appropriate math language and symbols to answer the data questions and explain (verbally or in writing) how s/he shared the Kisses equally between the three baskets.</li> <li>❖ <b>Representations:</b> The student can represent the baskets and the Kisses using manipulatives and/or drawings, has created an efficient system (charts/t-tables/graphs) to track the number of Kisses for each basket, and represents their solution with an equation.</li> </ul>
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<p><b>Expert</b></p>	<ul style="list-style-type: none"> <li>❖ The student understands that: <ul style="list-style-type: none"> <li>• S/he must answer questions about the candy Kisses data.</li> <li>• S/he must share the Kisses, according to foil color, equally between the three baskets.</li> <li>• There is a pattern to the Kisses and the number of baskets (sets of three) and uses the pattern to 'share' the candies.</li> </ul> </li> <li>❖ The student represents the solution with a number sentence (+, -, x, ÷).</li> <li>❖ <b>Task Extension:</b> The student includes a rule, equation, generalization, and/or observation (verbal or written) about their understanding of data and number concepts.</li> </ul>	<ul style="list-style-type: none"> <li>❖ The student must have a correct solution and demonstrate one or more strategies that will accurately answer the data questions and find the number of Kisses, according to foil color, shared equally between the three baskets.</li> <li>❖ The student identifies a pattern (share each color by 3) and uses the pattern to share the candy Kisses equally between the three baskets.</li> <li>❖ The student relates the solution to a number sentence (+, -, x, ÷).</li> </ul> <p><b>Sample Strategy:</b> See the 'Practitioner' strategy.</p> <p><b>Task Extension:</b></p> <ul style="list-style-type: none"> <li>• There is a pattern to the number of colored Kisses. There is 9 dark pink, 12 blue, 15 light pink, 18 green, 21 silver. Each color increases by 3.</li> <li>• Each basket gets 1/3 of the Kisses.</li> </ul>	<ul style="list-style-type: none"> <li>❖ The student can represent his/her work in a clear, organized manner.</li> <li>❖ <b>Summary:</b> The student states his/her final answer and uses appropriate math language and symbols to answer the data questions and explain (verbally or in writing) how s/he shared the Kisses equally between the three baskets.</li> <li>❖ <b>Representations:</b> The student can represent the baskets and the Kisses using manipulatives and/or drawings, has created an efficient system (charts/t-tables/graphs) to track the number of Kisses for each basket, and represents their solution with an equation.</li> <li>❖ <b>Task Extension:</b> The student includes a rule, equation, generalization, and/or observation (verbal or written) about their understanding of data and number concepts.</li> </ul>
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