

## Thinking Through a Lesson Protocol (TTLP) Template – Facilitator Guide K-2 Task

<p><b>Second Grade Standard #1</b></p> <p><b>[2-OA1]</b></p>	<p><b>Cluster Heading:</b> Represent and solve problems involving addition and subtraction</p> <p><b>Content Standard(s): 1.</b> Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions</p> <p><b>Practice Standard(s): MP1</b> Make sense of problems and persevere in solving them.</p>
<p><b>Task:</b> Write two math story problems where both the answers would be 100. Write the equation that goes with each of your stories and show your computation. Put an “E” by the easy problem and an “H” by the hard problem and explain what makes the easy problem easy and the hard problem hard.</p>	
<p><b>Differentiation</b></p> <p><b>Supports</b></p> <ul style="list-style-type: none"> <li>• Change the sum in the task to 20 instead of 100</li> <li>• Ask students that are struggling to write one story problem.</li> <li>• Scribe for the student as he/she dictates verbally</li> <li>• Provide a prompt to get the student started such as “A student was filling boxes with blocks and …” or “I am thinking of some numbers that…”</li> <li>• Ask the student to draw a picture or find a picture in a magazine and then write a story asking about the number of items in the picture</li> <li>• Underline words in the prose of the story and show the student how to short-hand represent the phrase into a number or operational symbol</li> </ul>	<ul style="list-style-type: none"> <li>• Are the solutions to each of the story problems 100?</li> <li>• If there are computation errors, are the answers close to 100 or are there major errors?</li> <li>• Are the equations correct for each of the stories?</li> <li>• Does the problem have only two numbers or multiple numbers?</li> <li>• Does the student use only addition? Just subtraction? Both</li> <li>• Does the explanation for selection of the hardest and easiest problem make sense?</li> <li>• Are there a wide variety of contexts for the problems or are the contexts identical with just a change of numbers? A lack of variety of contexts does not indicate a deficiency in math knowledge.</li> <li>• Does the computation work indicate the student used multiple strategies to find their solutions?</li> </ul>
<p><b>Extensions</b></p> <ul style="list-style-type: none"> <li>• Increase the number of story problems the student should write</li> <li>• Have students write each of their story problems on a separate index card with their name but no “E” and “H” indicated. Students would exchange cards with another student, solve the problems on the cards and then indicate which problem they thought the author would have marked “H” and why. Students would then check with the author to see if they agreed on the most difficult problem</li> </ul> <p><b>Solutions</b> will vary depending on the story written. All should have the same answer of 100. Some problems may have only 1 operation and only two numbers but others could have multiple numbers and both addition and subtraction included. For instance “The teacher put 85 colored candies in the class candy jar. Fifteen students each took a piece from the bowl as an award</p>	<p><b>Questions to Guide Student Thinking</b></p> <ul style="list-style-type: none"> <li>• Can you think of a list of numbers that add up to 100?</li> <li>• Do you know a subtraction problem where the answer is 100?</li> <li>• Have you considered just using numbers that end in zero?</li> <li>• Can you think of coins that add up to a dollar? Could you use that information to write a story problem?</li> <li>• If I gave you an equation could you write a story problem to go with it?</li> </ul> <p><b>Misconceptions</b></p> <p>Students may</p> <ul style="list-style-type: none"> <li>• Think they can only use two numbers in their story (and equation)</li> <li>• Think that they can only use addition and don’t consider</li> </ul>

## Thinking Through a Lesson Protocol (TTLP) Template – Facilitator Guide K-2 Task

### **Solution continued**

for good work. A parent brought in another bag of 30 pieces of candy and added it to the jar. How many pieces of candy are in the jar now?"

$$85 - 15 + 30 = 100$$

### **Misconceptions continued**

subtraction problems that result in 100.

### **Vocabulary Considerations**

Solution, variable, equation, computation