TOOL // Gr. 6 Understanding Problems Diagnostic

What is it used for?
The tool allows the teacher to assess how well students can apply the steps of the problem solving process focusing on the indicators of: identifying key information, choosing an appropriate strategy, verifying results.

How do you use it?
The students are given the task and questions. They only need to answer the questions not solve the problem. This provides the teacher with a quick snapshot of where their students’ skills are in problem solving so that targeted modelling and teaching can then be planned.

How do you adapt for other subjects or topics?
This tool can be used with any strand of mathematics but adapting the task.
Raven’s band is ordering bottled water for the Napanee Fair. They will be selling the water over the 3 days. They know from past fairs that about 750 people will buy bottled water. Each person is expected to drink about 2 bottles a day.

What is the key information in the problem to figure out how much it will cost?

Will you be using multiplication or division? Why?

Should you use mental math or a calculator? Why?

How can you estimate to see if we have the right answer if you do on the calculator?

<table>
<thead>
<tr>
<th>Category</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thinking</td>
<td>Identifies one or two pieces of key information, misidentifies operation or strategy Estimation strategy is unclear or very simplistic</td>
<td>Accurately identifies some: key information, operation, strategy Chooses a somewhat appropriate but simple strategy to estimate</td>
<td>Accurately identifies most: key information, operation, strategy Chooses an appropriate strategy to estimate</td>
<td>Accurately identifies: key information, operation, strategy Effectively uses estimation to verify</td>
</tr>
</tbody>
</table>

| Communication   | Explanations are very limited using few math terms                      | Explanations are simple, somewhat complete using limited math terminology | Explanations are generally clear and complete using basic math terminology | Explanations are clear and complete using appropriate math terminology |