### Appendix B.1: Distribution of Items Included in the Assessment by Content Domain, Cognitive Domain, and Item Format

**Content Domain**

<table>
<thead>
<tr>
<th>TIMSS Assessment Items</th>
<th>Multiple-Choice Items</th>
<th>Constructed Response Items</th>
<th>Total Items</th>
<th>Percentage of Score Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>46 (46)</td>
<td>43 (49)</td>
<td>89 (95)</td>
<td>52%</td>
</tr>
<tr>
<td>Geometric Shapes and Measures</td>
<td>35 (35)</td>
<td>21 (24)</td>
<td>56 (59)</td>
<td>32%</td>
</tr>
<tr>
<td>Data Display</td>
<td>8 (8)</td>
<td>16 (20)</td>
<td>24 (28)</td>
<td>15%</td>
</tr>
<tr>
<td>Total</td>
<td>89 (89)</td>
<td>80 (93)</td>
<td>169 (182)</td>
<td>100%</td>
</tr>
<tr>
<td>Percentage of Score Points</td>
<td>49%</td>
<td>51%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Cognitive Domain**

<table>
<thead>
<tr>
<th></th>
<th>Knowing</th>
<th>Applying</th>
<th>Reasoning</th>
<th>Total</th>
<th>Percentage of Score Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowing</td>
<td>37 (37)</td>
<td>36 (36)</td>
<td>16 (16)</td>
<td>89 (89)</td>
<td>49%</td>
</tr>
<tr>
<td>Applying</td>
<td>27 (28)</td>
<td>36 (44)</td>
<td>17 (21)</td>
<td>80 (93)</td>
<td>51%</td>
</tr>
<tr>
<td>Reasoning</td>
<td>64 (65)</td>
<td>72 (80)</td>
<td>33 (37)</td>
<td>169 (182)</td>
<td>100%</td>
</tr>
<tr>
<td>Percentage of Score Points</td>
<td>49%</td>
<td>51%</td>
<td>20%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TIMSS Numeracy Assessment Items**

<table>
<thead>
<tr>
<th>TIMSS Numeracy Assessment Items</th>
<th>Multiple-Choice Items</th>
<th>Constructed Response Items</th>
<th>Total Items</th>
<th>Percentage of Score Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Numbers</td>
<td>21 (21)</td>
<td>31 (32)</td>
<td>52 (53)</td>
<td>50%</td>
</tr>
<tr>
<td>Fractions and Decimals</td>
<td>7 (7)</td>
<td>8 (8)</td>
<td>15 (15)</td>
<td>14%</td>
</tr>
<tr>
<td>Shapes and Measures</td>
<td>18 (18)</td>
<td>17 (20)</td>
<td>35 (38)</td>
<td>36%</td>
</tr>
<tr>
<td>Total</td>
<td>46 (46)</td>
<td>56 (60)</td>
<td>102 (106)</td>
<td>100%</td>
</tr>
<tr>
<td>Percentage of Score Points</td>
<td>43%</td>
<td>57%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Cognitive Domain**

<table>
<thead>
<tr>
<th></th>
<th>Knowing</th>
<th>Applying</th>
<th>Reasoning</th>
<th>Total</th>
<th>Percentage of Score Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowing</td>
<td>30 (30)</td>
<td>25 (25)</td>
<td>11 (11)</td>
<td>46 (46)</td>
<td>52%</td>
</tr>
<tr>
<td>Applying</td>
<td>25 (25)</td>
<td>35 (36)</td>
<td>24 (25)</td>
<td>55 (55)</td>
<td>34%</td>
</tr>
<tr>
<td>Reasoning</td>
<td>7 (7)</td>
<td>12 (15)</td>
<td>7 (10)</td>
<td>15 (15)</td>
<td>14%</td>
</tr>
<tr>
<td>Total</td>
<td>46 (46)</td>
<td>56 (60)</td>
<td>102 (106)</td>
<td></td>
<td>100%</td>
</tr>
<tr>
<td>Percentage of Score Points</td>
<td>43%</td>
<td>57%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Counts of TIMSS Numeracy achievement items do not include the two fourth grade TIMSS 2015 mathematics blocks (see Chapter 4 of the TIMSS 2015 Assessment Frameworks).

Score points are shown in parentheses.

Because of rounding some results may appear inconsistent.